The Red Bluff Fish Passage Improvement Project --- a Successful (Yet Unplanned) Application of Reclamation's Business Model

The first lesson learned in analyzing the application of Reclamation's Business Model to the undertaking of the Red Bluff Fish Passage Improvement Project (Project) is this: quality management is quality management, regardless of having a model in place. Secondly, the new Business Model closely matches the time-honored and tested process of Project Management. Thirdly, Reclamation and the Tehama Colusa Canal Authority (TCCA) hit a Business Model home run without even realizing they were in the game. They just did the job right and did it concurrently as the Business Model was being developed.

Before looking at first-hand accounts of what was done and how it worked, a little background is necessary. The numerous Project details are readily available through the Mid-Pacific Region's web site at www.usbr.gov/mp/rbfish , but a couple general points should be made.

According to the Project's EIS purpose and need statement, the Project will:

- Substantially improve the long-term ability to reliably pass anadromous fish and other species of concern, both upstream and downstream, past the Red Bluff Diversion Dam.
- Substantially improve the long-term ability to reliably and cost-effectively move sufficient water in the Tehama-Colusa Canal and the Corning Canal systems to meet the needs of the water districts served by the TCCA.

Those statements became the Project's objectives, along with an additional one agreed to between Reclamation and TCCA:

- To complete the Project as efficiently, economically and expeditiously as possible.

It is an incredibly complex undertaking, projected to cost $220 million. As the saying goes, failure is not an option as the operation of the Red Bluff Diversion Dam was already the subject of litigation in Federal District Court. Further, the June 2009 Biological Opinion, developed by the National Marine Fisheries Service as required by the Federal Court for the operation of the Central Valley Project, stipulated that operation of Red Bluff Diversion Dam must cease at the end of the 2011 irrigation season. So the Project must be complete and operational by May, 2012, to assure uninterrupted water delivery.

Concurrent to the development of the Project, which we will chronicle in a moment, Reclamation was developing new Business Practices for Technical Services. They were an off-

shoot of the Managing for Excellence studies related to Engineering and other Technical Services within Reclamation.

The Model, as described in this website, has six important objectives and four elements. To recap, the objectives include:

- Empowerment of the regions
- Cost-effective services
- Transparency and accountability
- Predictability of workload
- Maintenance of core technical skills
- Strategic determination of outsourcing.

The Model components include:

- Advance planning
- Workload distribution
- Fee for service practices
- Customer collaboration.

Reclamation has adopted Directive and Standards for each of the components, which are included in this web site at http://www.usbr.gov/bp/process.html.

The project got off to a tenuous start, as both Reclamation and TCCA believed they should lead the effort, including planning and design along with construction management. Initially, TCCA wanted complete control while Reclamation believed that as owner of the facility, they had a direct responsibility to taxpayers and beneficiaries to assure the project would meet all applicable standards. The overall relationship between the two was admittedly strained.

But TCCA and Reclamation understood that they shared a mutual interest in the project, so the executive sponsors from each entity began devising a partnered approach to the planning, design, and construction management This laid the foundation for the Charter and the Project Management Plan.

The parties agreed that the key role was that of a Reclamation leader experienced in project management who could be assigned to the Project on a full-time basis. Among the first critical tasks was developing a Charter to define: the scope of work; how the Project will be managed; the major roles and responsibilities for the duration of the Project; and establishing an Executive Management Group (EMG) to oversee the Project. In doing this, the charter set the characteristics and the boundaries of the Project and became the basis for the Project Management Plan (PMP).

In drafting the Charter, Reclamation and TCCA faced the reality that they had three years to design and build the Project. They needed structure and order, the clock was ticking, and the deadline imposed upon them was not subject to negotiation or modification. Instead, the deadline was essentially written into the Biological Opinion.

The Charter served as a basis for the working relationships and enabled the collective energy to be focused forward to the upcoming job. It assured all parties that they have roles and responsibilities and that they will be integral to success. It also provided the technical staff the cover to do their job, confident that they have structure and management to tie it all together.

The Charter was signed in October 2009. Interestingly, the success derived from the Charter carried so deeply into the development of the Project Management Plan (PMP) that the PMP was never signed --- it just went into effect.

As said, both Reclamation and TCCA had strong feelings as to what their overall management responsibilities and resulting tasks should be. Both parties also recognized that Reclamation and TCCA's consultant, CH2MHill, have expertise in designing and building pumping plants and fish screens. Ultimately, Reclamation's Area Manager and TCCA's General Manager reached agreement based upon key expertise and experience to establish the lead role for each Project component. Reclamation has significant experience and expertise in designing pumping plants and siphons, so it was determined they would lead that effort. TCCA, through their consultant, CH2MHill, had significant expertise and experience in fish screen design, development and construction, particularly in the Sacramento River, so they were assigned the lead for that work, as well as the site design. But because of the unique partnership already established, the broader design team, comprised of representatives from both entities, performed a review of all design elements. Both organizations made use of their strengths, both essentially drew from their core capabilities, and both were able to move forward in a cooperative way. Within Reclamation, logical decisions would then follow between the Mid Pacific Region's design and construction management capability and the Technical Service Center's (TSC) capabilities. Necessary business applications of service agreements based upon fee-for-services would follow as work unfolded.

Within the PMP was an Executive Management Group (EMG) to provide major decision-making at the highest level and a Project Coordination Group which included each organization's Project Managers (PM's). Reclamation chose to assign one overall PM and a design team leader, where as TCCA had a CH2MHill PM who was also their design team leader and a second PM who was responsible for construction permitting, a natural outflow from their responsibility from their roles during the Planning phase. While there might appear to be a mismatch in numbers of PM's, what was important is that each PM had technical responsibilities. A "match" in PM numbers was not the issue. In Reclamation's case, their PM role included the principal budget, schedule, and overall tacking of cost responsibilities. Here was the primary point of daily management, reporting, and decision making.

There was a Joint Design Team (JDT) created to design the Project and produce drawings and specifications. It included two sub-teams: one from Reclamation's TSC and one from TCCA's consultant, CH2MHill. Reclamation's Regional Engineer provided the inter-team coordination to ensure consistency and compatibility between MP procurement and the finished procurement documents.

Finally, there was a Construction Management Team formed near the end of the design phase, led by the Mid-Pacific Regional Construction Engineer. While this team generally models typical Reclamation construction teams, the design responsibilities carried into construction as designer-of-record support to the construction team, and to supplement the Reclamation construction team.

In relation to the Business Model discussion, it is important to look at how the Project unfolded once the division of responsibilities was made and the PMP was created. Following on the success of the Charter, as mentioned earlier, the PMP was never signed…it just began to function.

The EMG has provided the necessary cover for the PM to have the means to quickly resolve issues with assurance the decisions are mutually supported and will stick, and not be unraveled by team members. Everyone on the Project design and construction level knows that while issues should be resolved at the lowest level, they can also go up as needed. It also enables the Project Manager to say, "We haven't done enough work, we need to work harder for solutions before going up to the EMG." This is important, as all staff now knows they are responsible to go as far as they can without ending up going in circles forever if they do not have the authority to make a decision. It gives the staff room to agree to disagree and keep the discussion on a professional level.

An example of the EMG functioning at the highest level related to the cost estimate for the Project. The original $230 million estimate, all agreed, should be reduced…but to what amount? Reclamation saw it coming down $10 million; TCCA envisioned a $20 million reduction. The PM's decided that the EMG needed to become involved. The final number was set at $220 million, based on the remaining risks the project still could face.

The Project Coordinating Group (PCG) is where the daily management happens. Reclamation has one PM and one Design Team Manager. TCCA has two Project Managers. The fact that there are three such PM's is not an issue because the effort is to work through consensus, and each PM has other technical responsibilities that mesh together with the others. The plan and the PCG also enable new team members to come on board and quickly get up to speed without having to slog through the whole Project history.

Service agreements are important within the JDT process, especially with Reclamation's TSC in Denver. At its peak, about 150 people were involved in the design process, including key staff at TSC and CH2MHill.

The Cost Management Team (CMT) likewise relies upon service agreements, especially with the TSC. This group is involved throughout the design, construction and Project closeout phases and coordinates closely with all Reclamation service providers plus CH2MHill staff.

Advance planning is always in process, running from the original baseline total project schedule and total Project budget determination to completion in 2014 (which includes a warranty year.) It is critical at every step to know where the Project is and where it is headed.

The cost tracking plan provides much of the Project transparency so important to both Reclamation and TCCA. This includes tracking accomplishment against all sources of funding and all contracts.

Finally, risk management is at the forefront of all that the Project's sponsors and managers consider. To the PM, it is far more than a "punch list." It involves identifying and keeping tabs at all times on the emerging top three or four risks. It entails communication with the EMG with a focus on long lead times. This only works when all the various teams are well managed, accountable to their responsibilities, and engaged with the PM. To the PM, it boils down to saying it is "us vs. the risk." It helped to focus everyone on the goal; like having a truce to battle a common enemy.

Each team has a clear understanding of its responsibility coupled with clear channels of communication to the PM's, which in turn have clear routes to the EMG. Through this model,

risks are identified, alternative risk mitigation plans are developed (e.g. Plan A, B, C and D) and there is an ownership of the possible courses of action if a risk is realized.

The high significance given to risk management is directly correlated to the fast track the Project is on. In fact, Reclamation's PM called it "do or die" because in such a fast track environment, the ramifications of unresolved problems are exponentially magnified.

Risk management is folded into a commitment to direct communication, done frequently and professionally and documented. Such communication, within teams and across the various groups, quickly calms down situations, establishes accountability and transparency, and ensures an accurate recording of who has met deadlines and who hasn't along with developing remedial solutions to remedy problems and minimizing the variety of reasons for going back and revisiting decisions. Most importantly, the communication process that comes out of a commitment to risk management and risk resolution cuts off nonproductive finger pointing. The number one ground rule, "We are all in this together," becomes more than a mantra --- it becomes the way business is done. Every subgroup tripped a bit and made some mistakes and missed some deadlines. This allowed the three PM's to quell tensions that naturally arose on a fast track project. Not only were we all in the same speed boat together, we all had some glitches. The PM's did not allow venting and finger pointing among teams. If someone wanted to vent, they took it off line with their PM. The PM's had the task of focusing all of the energy on the Project and minimizing energy going to negativity.

At the time of this case study's draft (June 2010), the Project is doing very well. It is in the hands of the Construction Team, is on schedule, and is under budget. There remain some major risks ahead; such as completing the land acquisition and excavating in a landfill, but there is confidence those risks have been identified so risk mitigation plans can be implemented before becoming a problem.

So, back to the Reclamation Business Model. What has been learned?

Lesson one is that while the model is new, project management, as practiced over the years in Reclamation's dam safety program and across much the construction world, already incorporates much of what is in the Business Model. Moving to Reclamation's Business Model will not be difficult for experienced project managers.

Secondly, when looking at the Project as an example, we see that application of the Business Model isn't a linear activity. All the elements are integrated and appear throughout the process. This author initially attempted to follow the Business Model in a step-by-step review, looking for how the Project encompassed advanced planning; workload distribution; fee for service; and customer collaboration. Even more challenging was attempting to follow the six

objectives of empowerment to the regions; cost-effective services; transparency and accountability; predictability of workload; maintenance of core technical skills and strategic determination of outsourcing. Essentially that was an effort to look at the Business Model as sequential. It isn't that --- it is a holistic approach to living and working in a transparent, accountable, and efficient environment.

The point can certainly be made that at each step of the model, managers incorporated all applicable elements. The stage for this Project was set the moment that Reclamation's Area Manager and TCCA's General Manager agreed to the division of design and construction responsibilities to meet deadlines that would otherwise be impossible.

Through the whole process, we have witnessed empowerment of the Mid-Pacific Region as a project with national significance has been managed within the regional structure. Not only is the Mid-Pacific Region empowered, but the Northern California Area Office is, as is TCCA, along with all the various teams described in the PMP. In other words, it is an empowerment for management organizations and for workers alike.

From that point, everything fell into place. Services are cost-effective because the right organizations, at the right level, within Reclamation or TCCA (and CH2MHill) are working to their core expertise. In that process, they not only maintain appropriate core technical skills, but enhance those skills which aids in workforce succession planning too. In planning for that division of work, predictability is met and scheduling is most effective. Transparency and accountability are met through total project integration of schedule, funding, and budget, risk management and communication throughout the entire project organization.

A side benefit to application of the Business Model relates to dealing with public issues surrounding the project. Because the model is built upon the premise (and promise) of transparency and accountability, all project data is at the manager's fingertips to deal with customer, public and media issues. Additionally, because of the close relationship with the project's sponsors, solid partnerships are in place to work through public inquiries and issues for federal and non-federal partners.

In the case of the Project, the Charter and the PMP were closely linked to the Project's history and environmental compliance, including a clear discussion of the Project's purpose and need statements; fishery concerns; statutory authorities; objectives and scope. This provides a quick source of data to augment discussions of issues and benefits of the use of $220 million in taxpayer and ratepayer funds.

The final question posed to Reclamation's PM was: "Will the Red Bluff Fish Passage Improvement Project provide useful data to meet the objectives of the Business Model through

reporting to the Coordination and Oversight Group (COG)?" This project will be one of the first major projects to report to the COG.

The answer was an unequivocal "Yes." "The concept of the COG," said the PM, "is on the right track so that Reclamation will have clear data to know how well we have done our jobs and at what cost and where we are, which provides a basis for launching the next round of projects. We will know how much work has been appropriately contracted while protecting our critical core capability. Finally, we will have a clear understanding of how we are serving our customers and the public."

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Attachments:

1. Red Bluff Fish Passage Improvement Project – Pumping Plant and Fish Screen Charter
2. Red Bluff Pumping Plant and Fish Screen – Project Management Plan