River Corridor Closure Contract

The Effect of the Recovery Act on the River Corridor Closure Project: Lessons Learned

July 2012

For Public Release

Washington Closure Hanford

Prepared for the U.S. Department of Energy, Richland Operations Office
Office of Assistant Manager for River Corridor

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1.0 INTRODUCTION

Washington Closure Hanford (WCH) was halfway through its 10-year cleanup project – the River Corridor Closure Project (RCCP) – when it was selected as one of three Hanford contractors to receive funds from the *American Recovery and Reinvestment Act of 2009* (Recovery Act). Washington Closure Hanford was requested to provide the U.S. Department of Energy (DOE) with a new scope of work that would meet the requirements of the Recovery Act and also benefit the long-term goals at Hanford. The initial request was made in March 2009 for a 2-year period of performance that began October 1, 2009, and ended September 30, 2011. In April 2012, approximately 6 months after the planned end-point, the Recovery Act funding is still not completely spent. Washington Closure Hanford expects to spend its entire Recovery Act allocation of \$233.6M and, as a result of efficiencies provided, “buyback” approximately \$34M for the funding of other projects.

This summary report provides a high-level lessons learned by WCH of the impact to its project performance. The context is limited to the WCH project alone. Reference is made to the United States Government Accountability Office report *Most DOE Cleanup Projects Appear to Be Meeting Cost and Schedule Targets, but Assessing Impact of Spending Remains a Challenge* (GAO-10-784), in order to address relevant generic issues raised in that assessment.

The word ‘stimulus’ is used frequently throughout the report to describe the provision of Recovery Act funds.

2.0 LESSONS LEARNED

The timing of the Recovery Act was fortunate for the RCCP. Although much of the workscope was completed by 2009, there was still sufficient remaining work for WCH to usefully employ stimulus funds. The DOE expected that stimulus would help it achieve several goals including accelerating the cleanup effort, reducing the footprint of facilities and contamination, creating jobs, and reducing total remaining cleanup costs. The following Lessons Learned are broken out against these four objectives with the addition of a fifth, the way that the Recovery Act work was reported.

2.1 ACCELERATING THE CLEAN-UP EFFORT

WCH was able to assemble “shovel-ready” scopes of work, such as the construction of super cells 9 and 10 and other enhancements at the Environmental Restoration Disposal Facility (ERDF) that could be accomplished within the Recovery Act schedule. Where there was uncertainty of completion within the allowed timeframe, WCH identified specific end-points for Recovery Act funding such that the project could be continued using normal project funds after the Recovery Act period. Work areas funded by the Recovery Act for the RCCP are shown in Figure 1.

Figure 1. ARRA Scope.

Much needed enhancements to the ERDF were made possible by the stimulus of about \$100M. Improvements in performance and safety were immediate. Recovery Act-funded expansion increased capacity by more than 50% and allowed for the purchase of new equipment and new maintenance facilities. These improvements will support Hanford cleanup for years to come.

Stimulus provided to ERDF was effective in all four Recovery Act target areas, as follows:

- It created new jobs within WCH as well as external jobs in terms of subcontracts
- It accelerated work for WCH and other Hanford contractors by providing 50% additional capacity at a time when waste disposal was ramping up in all areas (Figure 2)
- It supported footprint reduction across the Hanford Site
- It reduced life-cycle costs by the provision of cost-effective extra storage (Figure 3).

Figure 2. ERDF Disposal Operations.

	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Avg Tons/Day	4,251	2,546	1,862	2,615	3,688	6,910	9,465	7,697	TBD
Avg Loads/Day	222	143	107	144	189	336	486	365	TBD

Figure 3. ERDF Cell Construction Costs Baseline vs. Stimulus.

Washington Closure Hanford received about 6 months warning of the impending funds allocation and responded quickly with a proposal within 3 months. However, the scope of the proposal was only about half of what was being allocated to WCH. A second proposal was necessary and was delivered in September 2009, 1 month before the start of receiving ARRA funds in October 2009. WCH could have avoided this tiered approach with more notice.

The rate-determining step in the preparation of acceptable work scope was the required rigor to validate the scope and cost estimate. The DOE followed the process established by DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, for reviewing and assessing the targets' validity and the reasonableness of the price of the associated contract. This rigor was necessary but made it very difficult to establish a fully validated scope and cost by October 2009. In many ways the experience gained by WCH in establishing its change management process (Request for Equitable Adjustment or REA) proved very helpful in developing Recovery Act proposals that could be more easily validated.

Washington Closure Hanford's Deactivation, Decontamination, Decommissioning, and Demolition (D4) organization was not suitable for stimulus because, at the time of its appearance, D4 had completed much of its scope or was not able to easily segregate the remaining work to meet Recovery Act requirements. Field Remediation and ERDF became the focus on RCCP. Acceleration of the D4 work within the RCCP was not possible for this reason.

2.2 REDUCING FOOTPRINT OF FACILITIES AND CONTAMINATION

The achievement of footprint reduction targets at Hanford was significantly supported by the Recovery Act funding. Most, if not all, of the targets for 2010 and 2011 were achieved, some ahead of schedule. WCH scope provided approximately 60 mi² of reduction with the cleanup of Segment 1 and 2. This was an example of the benefits of linking the goals of the Recovery Act with existing Hanford goals such as DOE's 2015 Vision. Figure 1 shows the extent of the cleanup supported by stimulus.

The 618-10 and 618-11 Burial Grounds are two of the most complex and hazardous cleanup projects at Hanford. Both burial grounds received low- and high-activity radioactive waste from 300 Area laboratories and fuel development facilities. Low-activity wastes were primarily disposed in trenches, while the moderate- and high-activity wastes were disposed in vertical pipe units (VPUs). Washington Closure Hanford used Recovery Act funding to perform nonintrusive and intrusive characterization of 12 waste trenches and 94 VPUs at the 618-10 Burial Ground. Stimulus also supported a portion of trench remediation activities at the 618-10 Burial Ground. At the 618-11 Burial Ground, funds were used to perform nonintrusive characterization of 50 VPUs.

Much of the Recovery Act allocation for the RCCP was spent buying goods and services to support project scope. This enabled WCH to manage the funding reasonably well within the strict 24-month timeframe. Projects were chosen that benefited DOE-RL's 2015 Vision, WCH's project schedule, and the available subcontracting organizations.

2.3 CREATING JOBS

The importance of creating jobs and the diversity of the types of labor employed within the DOE complex made accurate and clear reporting very difficult. There was widespread confusion about how to comply with the requirements. It was difficult in the beginning, for the project to comprehend the basis of some of the metrics. The definition of "lives touched" was unclear and resolution only came after a number of projects conferred to find a common understanding. The workshops arranged by DOE to allow contractors to share issues helped with this problem. The DOE, Richland Operations Office (DOE-RL) and its support staff worked hard to interpret and guide "jobs created" statistics but this remained the most difficult area of reporting for WCH.

Instructions on the use of algorithms to calculate employment statistics for the Recovery Act work were frequently changed and good communication of new information became extremely important. Much effective support was received from DOE-RL and its strengthened support staff in interpreting requirements.

Some of the communication tools developed for Recovery Act reporting have been useful beyond the Recovery Act period. In a sense, people skills were enhanced by the need for more elaborate reporting. For example, a weekly video was produced that summarized recent events in the projects. The making of this video developed new skills within WCH; these skills and benefits are still being used.

The injection of new people into the organization was very beneficial. Overall, about 185 full time employees were employed during the 24-month period and by the end of the stimulus period. By careful management of resources, WCH was able to avoid any layoffs at the end of the Recovery Act period.

WCH awarded more than \$30 million in Recovery Act dollars to 232 subcontractors in 2011. Most of these subcontractors were local to the Pacific Northwest.

2.4 REDUCING LIFE CYCLE COSTS

Improvements made to ERDF facilities and operation using Recovery Act funds had a significant effect on other projects as well as the RCCP itself. The building of super cells 9 and 10 enabled the immediate acceleration of cleanup by WCH but also allowed the newly established CH2M Hill Plateau Remediation Company to ramp up their waste disposal to more than twice their previous capacity. ERDF enhancements will support cleanup for the next 20 to 30 years.

2.5 REPORTING

Reporting requirements for Recovery Act work seemed over exacting. At times the volume of reports threatened the quality of regular project reporting. Certainly, the Recovery Act reporting volume was almost twice as voluminous than regular project reporting. DOE should assess whether the extra reporting requirements were worth the pain.

Meaningful Performance Metrics were often difficult to develop for RCCP scope. For example, one of the most popular goals for cleanup was footprint reduction, but the actual time spent in remediation of waste sites is small compared to the preparation and after care. In the case of remediating waste sites in 100-F Area, only 2 months out of the available 24 months were spent on the remediation itself. The metric of footprint reduction was only reported for 2 of the 24 months despite the significance of the work achieved.

Only one out of seven metrics that were established by DOE for use by its Recovery Act projects was appropriate for use by WCH.

Washington Closure Hanford had already established a successful 4-year project record by the time the Recovery Act was introduced. They decided to accommodate the Recovery Act funding using this existing system but with special coding to ensure defensible segregation of Recovery Act activities. The terms of the Recovery Act were sufficiently adaptable to allow this methodology. In this way, WCH was able to keep down the overall costs of handling the unexpected change, and at the same time benefit by constructing a financial reporting system that facilitated easy and transparent analysis. In a recent review of its accounting system by DOE, the WCH methodology and transparency was commended. In retrospect, WCH concluded that they made the right decisions about how to accommodate the Recovery Act work within its existing system.

3.0 CONCLUSIONS

- The RCCP is a small contract in comparison with others in the DOE complex, but all four objectives of the Recovery Act were supported.
- Stimulus invested in the ERDF was probably the most effective within the RCCP and will have lasting effects for the next 20 to 30 years.
- Washington Closure Hanford's Recovery Act strategy, which was to implement within its well established existing systems, proved to be effective.
- Arduous reporting requirements were adhered to, but it may be beneficial for DOE to conduct its own review to evaluate if the benefit was worth the level of effort.

4.0 REFERENCES

American Recovery and Reinvestment Act of 2009, P.L. No.111-5.

DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, as amended, U.S. Department of Energy, Washington, D.C.

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