Communicating Strategic Planning and Project Integration Paramount to Achieving Cleanup Goals at the Central Plateau – 9104

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ABSTRACT

CH2M HILL Plateau Remediation Company (CHPRC) is the U.S. Department of Energy's (DOE) contractor responsible for the safe, environmental cleanup of the Central Plateau of the Hanford Site.

The 586-square-mile Hanford Site is located along the Columbia River in southeastern Washington State. A plutonium production complex with nine nuclear reactors and associated processing facilities, Hanford played a pivotal role in the nation's defense for more than 40 years, beginning in the 1940s with the Manhattan Project. Today, under the direction of the DOE, Hanford is engaged in the world's largest environmental cleanup project.

The Plateau Remediation Contract (PRC) is a 10-year project paving the way for closure of the Hanford Site through demolition of the Plutonium Finishing Plant; remediation of six burial grounds and 11 groundwater systems; treatment of 43.8 meters of sludge; and disposition of 8,200 meters of transuranic waste, 800 spent nuclear material containers, 2,100 metric tons of spent nuclear fuel, and two reactors.

The $4.5 billion project, funded through the U.S. DOE Office of Environmental Management, focuses equally on reducing risks to workers, the public, and the environment and on protecting the Columbia River.

INTRODUCTION

This paper describes the strategic planning and project integration approach to achieving cleanup goals at the Hanford Site's Central Plateau.

The U.S. Department of Energy (USDOE) selected CH2M HILL Plateau Remediation Company (CHPRC) to execute the Plateau Remediation Contract at the Hanford Reservation, which was kicked-off on October 1, 2008. CHPRC is charged with the safe, environmental cleanup through decommissioning and remediation of the Central Plateau and 100K Area. This scope includes:

- 100K Area remediation, sludge treatment, and reactor interim safe storage
- Plutonium Finishing Plant (PFP) closure
- Hanford Groundwater / Vadose Zone Remediation Project
- Groundwater, soil, and facility regulatory decision / other documents
- Central Plateau facility, waste site, and canyon remediation
- Waste retrieval, treatment and disposal, and fuels management
- Fast Flux Test Facility near-term shutdown activities
- Facility and waste site minimum-safe / surveillance and maintenance (S&M).

To meet the overall objective of the U.S. Department of Energy's 2015 Vision for Hanford Site Cleanup, which includes an accelerated plan to reduce the Hanford Site footprint, the resolution of many regulatory and technical challenges must be agreed to. Prior to achieving regulatory and stakeholder agreement, the USDOE and CHPRC project management and staff must be aligned and have a clear understanding of the project overall vision and priorities. To help achieve this understanding, the Project's technical scope, its budget, regulatory milestones and schedules must be integrated into a Project Management Baseline.

Figure 1 illustrates three main areas of focus to achieve project integration and alignment. These three integration focus areas include:

- The Strategic Plan
- The Regulatory Pathway
- The Project Management Baseline

This paper further describes each focus area, and the tools and methods used to integrate and communicate the overall project strategy to ensure safe and compliant cleanup.

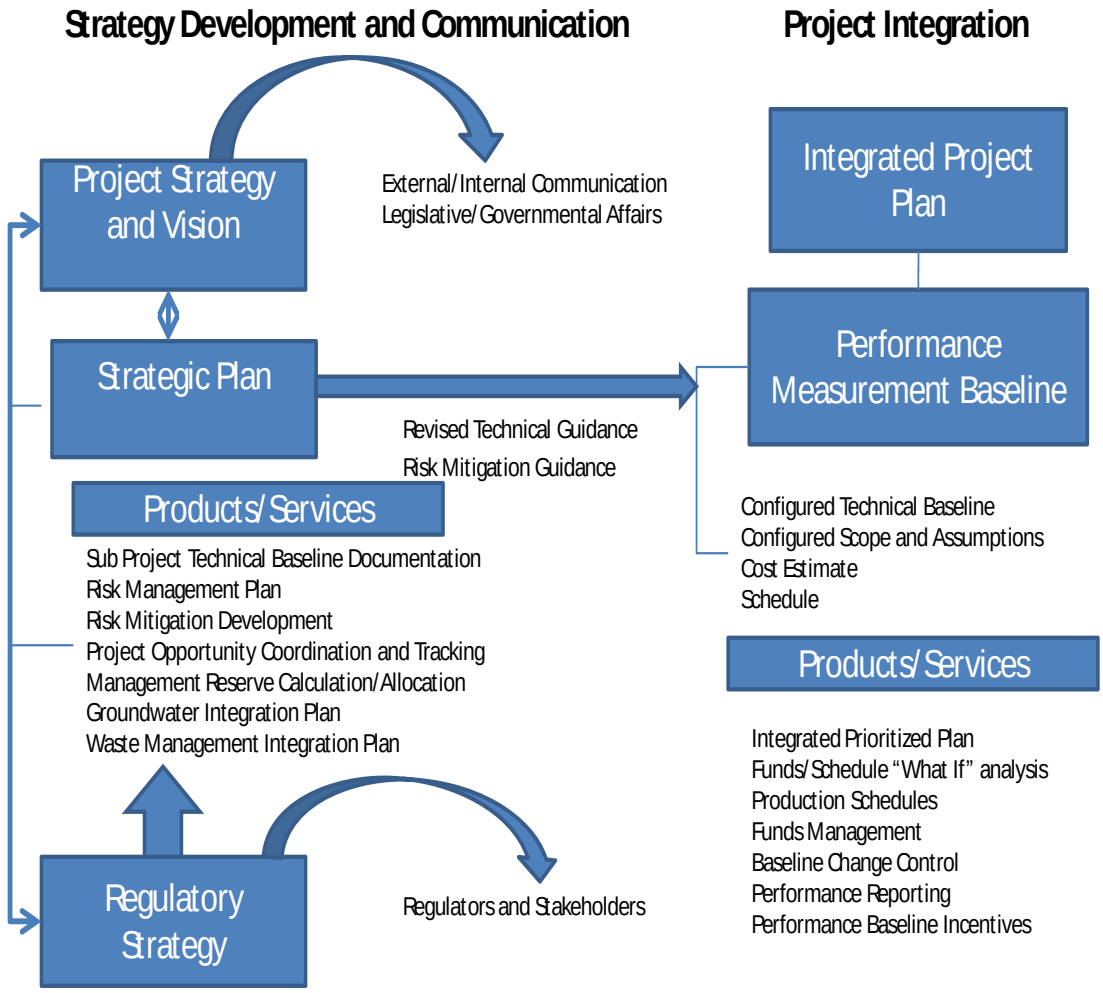


Fig. 1. CH2M HILL Plateau Remediation Contract's areas of focus to achieve project integration.

THE STRATEGIC PLAN

Strategic planning is a disciplined effort to produce decisions and actions that guide and shape what the organization is, what it does, and why it does it. To better communicate and align the project goals and objectives, CHPRC has developed a five-year strategic plan that memorializes the goals and implementation strategies for the CHPRC contract. The Strategic Plan aligns with USDOE's 2015 Vision and identifies the high-level work priorities for the first five years of the contract. The Strategic Planning organization is chartered with not only the Strategic Plan but also with the following, each of which is further detailed below:

- Defining and communicating project goals and objectives
- Coordinating between internal projects
- Tracking and trending project risks and opportunities

Defining and Communicating Project Goals

Communicating and understanding the core goals of the project is critical for aligning the work scope and the workforce. The CHPRC goals are memorialized in a Strategic Plan Fact Sheet provided to external and internal organizations. The goals are kept simple and easy to understand so that every stakeholder can provide meaningful dialogue and input to the approach. These simple goals are:

1. Protect the Columbia River
2. Reduce hazards, risks and mortgage costs
3. Shrink the Site footprint
4. Follow focused remediation of the Central Plateau

Goal 1: Protect the Columbia River. Preventing contamination from reaching the Columbia River is USDOE's top priority. Actions that support this goal include:

- Operating existing groundwater pump and treat systems at the 100 and 200 Areas
- Optimizing and expanding groundwater treatment at the 100 and 200 Areas
- Eliminating or minimizing contamination sources near the river first; deactivating, decontaminating, decommissioning and demolishing (D4) facilities along the river; and placing the K East Reactor into Interim Safe Storage
- Moving K Basin sludge away from the river.

Goal 2: Reduce hazards, risks and mortgage costs. Urgent and longer-term hazards will be reduced or eliminated by:

- Consolidating special nuclear material and fuels from older facilities to safer facilities, with the added benefit of reducing mortgage costs. Remove and ship plutonium offsite
- Eliminating threats to workers and the public by D4 of high-risk facilities
- Continuing disposition of legacy wastes, including shipment of stored transuranic wastes to the Waste Isolation Pilot Plant.
- Eliminating onsite interim storage where possible by treating and disposing of wastes as they are generated
- Applying surveillance and maintenance costs savings to cleanup.

Goal 3: Shrink the Site footprint. As depicted in Figure 2, a critical project goal is to reduce the size of the Central Plateau and 100K Area from its current size down to the smallest practical area. Footprint reduction will be consistent with the Hanford Site Comprehensive Land Use Plan, and shrinking the site footprint implements the USDOE's objective to remediate waste sites outside the Central Plateau. The strategy for reducing the footprint consists of prioritizing work using an "outside-in" approach that will focus on completing activities at areas such as 100K, 400 Area and the outer portions of the Central Plateau to achieve tangible footprint reductions by 2013.

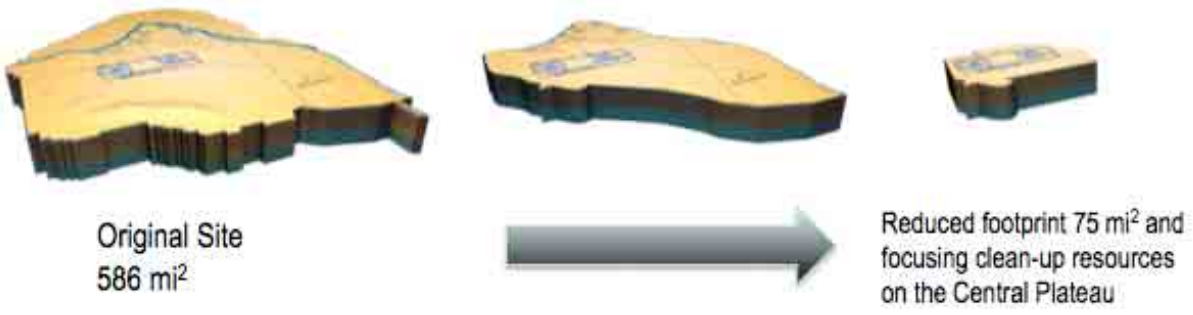


Fig. 2. Shrink the Site footprint.

Goal 4: Focused remediation of the Central Plateau - gaining decision efficiencies. CHPRC sees significant opportunities to focus remediation by building consensus around the critical elements of a cleanup vision for the Central Plateau. CHPRC and USDOE are developing a process to establish a common understanding on how USDOE and its regulators can reach agreement on the level of protectiveness that future remedies must achieve. Once the critical elements of the vision are established and agreed upon, focus can shift to streamlining and integrating the regulatory decisions necessary to sequence remediation based upon risk reduction, shrinking the footprint, and achieving cleanup efficiencies.

Project Coordination

The Strategic Planning Team is chartered to help communicate and coordinate across all projects. This helps ensure there is a common platform of assumptions, schedules, cost information, and resource planning that feeds the project baseline. Two main areas that require a thorough integration effort include the Groundwater Integration Plan and the Waste Management Strategic Plan. Both require separate integration that feed the Strategic Plan.

Groundwater Integration Plan –Ensuring the groundwater approach is integrated amongst all CHPRC projects and other Hanford contractors is critical. The program's primary goals are to aggressively cleanup groundwater contaminants, avoid future groundwater contamination, and prevent groundwater contaminants from migrating to the Columbia River. Accelerated cleanup is designed to return groundwater to beneficial use, where possible.

The areas of Groundwater focus shared and understood by all CHPRC project managers include:

- Integrate the groundwater remediation decisions and activities with the source units (soil in most cases) decisions and activities.
- Remediate high-risk waste sites - cleanup waste sites that pose the highest risk to groundwater
- Shrink the contaminated area - reduce the contaminated surface area, so as many areas as possible will no longer pose a threat to groundwater

- Reduce recharge - reduce the transport of contaminants to groundwater from water released onto the soil
- Remediate groundwater - complete remedial actions at pump-and-treat sites
- Monitor groundwater - determine the groundwater monitoring needs for long-term stewardship of the Central Plateau and evaluate new technologies that may be more effective.

Groundwater Remediation Project Mission:

To protect the Columbia River from contaminated groundwater resulting from past, present, and future operations at the Hanford Site and to protect and restore groundwater.

Waste Management Strategic Plan – The Waste Management Strategic Plan reflects integration and optimization of the waste treatment / disposal function and supporting facilities/infrastructure, and identifies significant baseline cost improvement opportunities. The plan includes:

- TPA requirements project completion strategy
- Identification of adequate waste treatment and disposal capabilities
- Project plans to obtain additional waste treatment and disposal capabilities including identification of DOE O 413.3A Critical Decisions
- A strategy to recover costs from generators for waste storage, treatment, and disposal services provided by the CHPRC
- Initiatives that can be used to develop some performance objectives for FY 2010 and beyond.

Managing Project Risk

The Strategic Planning Team also leads the Risk Management Plan (RMP). The RMP is reviewed on a monthly basis alongside the project management baseline. During the development of project risks and during the review process, this provides an opportunity to communicate project priorities and goals, and project assumptions. At contract start, an initial risk listing for each project was developed and a Risk Management Team was assigned for each project. The Team worked on identification of risks as well as opportunities and the initial qualitative evaluation and ranking of risks. In parallel, preliminary baseline assumptions were developed and evaluated for risk purposes. Opportunities and their potential benefits are similarly being captured as part of this process to formalize the documentation and evaluation of cost saving/schedule acceleration initiatives. For the highest risks being identified, handling actions to reduce the cost or schedule liability for each risk are also being developed. As part of the RMP, CHPRC determines residual risks that are left after the mitigation handling actions are implemented. This will ensure that baseline assumptions are refined and ensure that Performance Measurement Baseline (PMB) cost and schedule estimates have a reasonable basis, and will also capture uncertainties associated with the estimates.

Tied into project risks includes an evaluation of the regulatory impacts on a project. For example, a risk mitigation strategy may involve amending a Record of Decision or changing cleanup levels, which may increase, or decrease disposal costs. Before this mitigation, strategy

becomes reality it must first be agreed upon by regulators. Eventually it then appears as a change in the project baseline.

Regulatory Strategy and Integration

The key elements of the CHPRC regulatory strategy and integration effort in support of the USDOE strategic planning are as follows:

- Strategic Integration
- Project/Technical Integration

The primary goal of Strategic Integration is to support USDOE's initiative to develop regulatory strategies to streamline, optimize and enhance the cleanup effort on the Hanford Site. Regulatory strategies can justifiably change as a project progresses through its various phases: investigation, remedy evaluation, remedy selection, design, and implementation; particularly for a site as large and complex as the Hanford Site. Periodic reassessments of the strategy are warranted throughout these phases of cleanup, to insure that cleanup is progressing in the most efficient and effective manner possible, while still maintaining protectiveness.

The CHPRC has set forth several goals in this area:

- Revisit, and revise as necessary, the Central Plateau regulatory strategy to achieve a protective, consistent and fiscally responsible end-state for the Central Plateau.
- Recognize and consider the technical and budgetary challenges when formulating regulatory strategies.
- Consider benchmark and precedent-setting cleanup experiences at other USDOE and non-DOE superfund sites that have resulted in protective and successful cleanup, use these as Lessons Learned for Hanford Site cleanup efforts as appropriate.
- Gain consensus on cleanup strategies through a collaborative process between the Agencies senior management (USDOE, US Environmental Protection Agency, and Washington State Department of Ecology).
- Involve stakeholders and the public in development and ratification of strategies.
- Integrate and collaborate with other contractors to insure consistency in implementation and in cleanup outcomes across the Hanford Site.

The complexity of the Hanford Site cleanup effort, and the number of involved parties, can easily lead to a lack of consistency in cleanup efforts. USDOE has contracted CHPRC to provide Project/Technical Integration of cleanup activities on the Hanford Site, specifically as it pertains to the remediation of the groundwater. CHPRC will accomplish this through a number of methods, including:

- Provide support to USDOE in executing its lead agency role with the regulators and stakeholders in the preparation, submission, approval and defense of decision, regulatory and supporting documentation.

- Function as the Site integrator for modeling and risk assessment activities with the objective of insuring consistency and defensibility. Provide guidance for risk assessment via a site specification document.
- Manage and maintain site environmental and characterization databases.
- Coordinate review and production of remedial action decision documents, with the objective of insuring consistency with site regulatory strategies, consistency between documents, and defensibility.

Project Management Baseline

The formal, contractual document that ties both the Strategic Plan and the Integrated Regulatory approach is the Project Management Baseline. From the baseline the project can then report on its progress monthly and quarterly giving assurance to USDOE and the public that progress is being made and at what cost. Table 1 describes the CHPRC project management actions that formalize the efforts into a Project Management Baseline. The efforts of both the Strategic Plan and the Regulatory Approach feed the overall Project Management Approach, as depicted in the table.

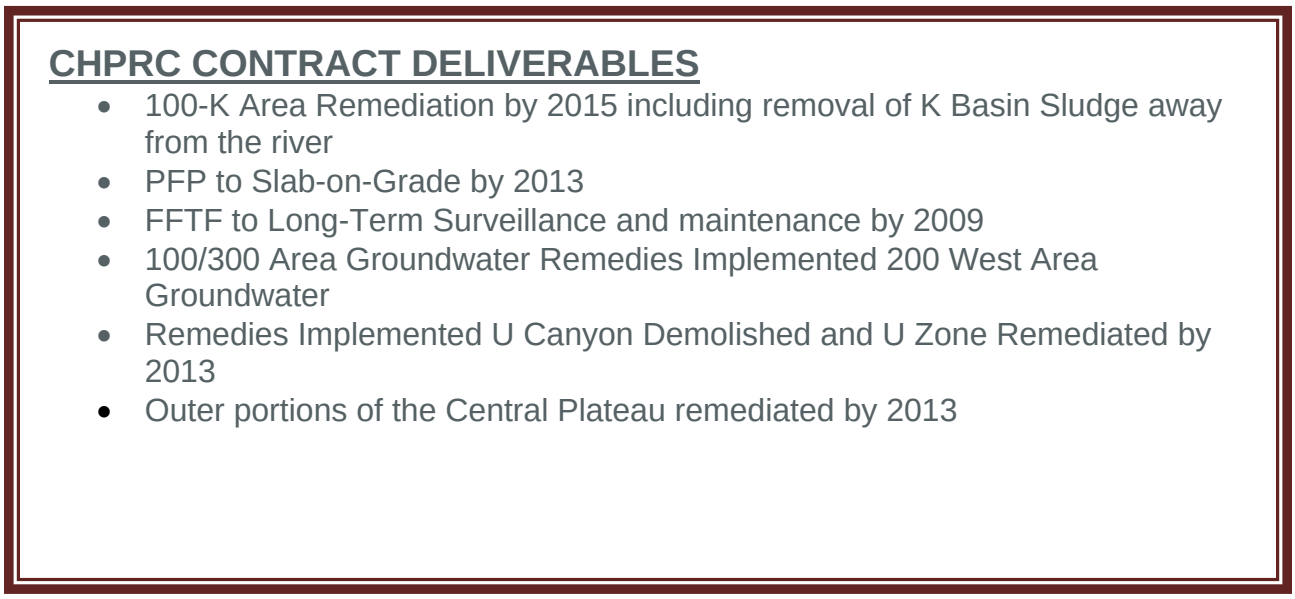
Table I. Project Management Actions and Strategies to Achieve Full Project Integration

Action	Strategies to Achieve Action			
Project Charter	*Identify quantifiable objectives, cost and schedule targets; outline staffing commitments, funding, and assets.*	*Define specific performance goals and cost and schedule thresholds; describe PM authority and organizational commitment.*	*Define project manager responsibilities and authority; describe specific objectives and make express commitments of staffing, funds, and assets.*	
Long-Term Goals and Objectives	*Define basic phases, milestones, decision points, accomplishments, and deliverables.*	*Prepare project plan inputs with discussion of phases, deliverables, objectives and success criteria; establish immediate milestones within project phases.*	*Include in project plan linkages between milestone approval reviews and documents, updated estimates, test results, etc.*	*Define event-based milestones; establish milestone exit criteria; link to deliverables, baseline document updates, test results, and management reviews.*

Stake-holders	*Identify project stakeholders (customers, sponsors, users, etc.) listen to their interests and objectives; review the project plan to gage stakeholder satisfaction.*	*Map stakeholder interests to specific initiatives to ensure satisfaction; develop, maintain, and post team success metrics; plan proactive stakeholder communications.*	*Prepare stakeholder management plan, and allocate staff and budget to periodic reassessments and corrective actions; focus specific initiatives to achieve stakeholder satisfaction.*	*Prepare regulatory integration plan; map to the quality plan, risk management plan, and to project reporting initiatives.*
The Strategic Plan	*Summarize project objectives, approach, time constraints, cost estimates, and staffing plan; ensure these fit together and are realistic and achievable; define milestones; and link tasks to owners and deliverables.*	*Employ planning process to build team ownership and facilitate peer review; apply systematic methods to assess cost and schedule realism; plan more heavily in risk areas; apply all PM principles in plan.*	*Prepare a plan that links the requirements, task plans, timelines, cost estimates, staffing, deliverables, and test plan; make sure cost, scope, and time are bounded; define success criteria for milestones.*	*Produce an integrated family of documents defining all project activities and disciplines; plan for mapping and traceability throughout major documents.*
Project Management Requirements, Tracking and Metrics	*Apply sound project management principles such as: clearly documented requirements, a realistic plan, project baseline controls, and periodic reviews; maintain a PM notebook.*	*Include outline of proposed project management methodology in project plan document; identify vital PM systems and procedures.*	*Document PM Approach, including baseline management, reviews, data collection, project metrics, and control responsibilities; monitor and report status of PM implementation*	*Prepare project management plan describing methodology, reviews, baseline controls, and organizational roles and responsibilities; establish metrics to track integrity of PM disciplines.*

Project Baseline Control	*Use requirements document to establish baseline stability; have PM approves major changes; establish version control as product design matures.*	*Place requirements document under formal control; require change request approval by PM; report metrics to track scope changes.*	*Establish configuration identification, status accounting, control process*	*Establish baseline for requirements, functional and allocated specs, and product design; require functional approvals prior to CCB.*
Project Baseline Control (cont.)	*Maintain historical track of cost and schedule estimate revisions; report baseline and latest revised estimates against actuals.*	*Identify cost and schedule baselines; report metrics to show changes against milestone estimates.*	*Establish cost and schedule baselines and maintain disciplined controls; report all baseline re-plans or changes; define tasks in discrete work packages.*	*Establish firm cost and schedule baseline between major milestones; require sponsor signature for baseline re-plans; use work package approval and authorization process.*

Benefits to Project Integration



The CHPRC is faced with some aggressive contract deliverables as listed in Figure 3.

Fig. 3. List of CHPRC contract deliverables.

To achieve this level of success, integration is imperative. Not only will a well-integrated approach allow us to meet our contract deliverables, but additional benefits are realized. The following are some of the benefits that can be gained through implementing a strategic planning process with a strong regulatory integration approach:

- Resources (time, talent, money) are properly allocated to those activities that provide the most benefit.
- The company's performance is better analyzed.
- Project risk on the company is better understood and the affected needed changes can be made.
- The company’s potentials in light of its strengths and weaknesses can be recognized.
- Identify and analyze available opportunities and innovations
- Strategic issues can be brought up for top management review.
- Able to set more realistic objectives that are demanding, yet attainable.
- Poor performing areas can be identified and eliminated.
- Gain control of operational problems.
- Develop better communications with those both inside and outside the company.
- Provides a road map to show where the company is going and how to get there.
- Develop a frame of reference for budgets and short-range operating plans.
- Gain a sense of security among employees that comes from better understanding of the changing environment and the company's ability to adapt.

CONCLUSION

Communicating the evolution of the strategic plan is imperative to successful implementation. CHPRC continues to share with employees, and the public, the goals and strategies for the Central Plateau cleanup through briefings, goal charts and monthly messages.

The strategic plan and integration ties all levels together and defines the end result. Every area of the project plays a role in success of the cleanup mission. Employees and the public need to be informed to continue moving forward and seeing the progress made.