

## Collaboration in Long-Term Stewardship at DOE's Hanford Site – 13019

\*Rick Moren, PG, \*David Brown, \*\*Ella Feist, \*\*\*Keith Grindstaff, PMP, \*\*\*Jamie Zeisloft

\*Mission Support Alliance, LLC, Richland, WA

\*\*Washington Closure Hanford, LLC, Richland WA

\*\*\*US Department of Energy, Richland Operations, Richland WA

### ABSTRACT

The U.S. Department of Energy's (DOE) Hanford Site comprises approximately 1,517 km<sup>2</sup> (586 mi<sup>2</sup>) of land in southeastern Washington. The site was established in 1943 as part of the Manhattan Project to produce plutonium for the nation's nuclear weapons program. As the Cold War era came to an end, the mission of the site transitioned from weapons production to environmental cleanup. As the River Corridor area of the site cleanup is completed, the mission for that portion of the site will transition from active cleanup to continued protection of environment through the Long-Term Stewardship (LTS) Program. The key to successful transition from cleanup to LTS is the unique collaboration among three (3) different DOE Programs and three (3) different prime contractors with each contractor having different contracts. The LTS Program at the site is a successful model of collaboration resulting in efficient resolution of issues and accelerated progress that supports DOE's Richland Office 2015 Vision for the Hanford Site. The 2015 Vision for the Hanford Site involves shrinking the active cleanup footprint of the surface area of the site to approximately 20 mi<sup>2</sup> on the Central Plateau.

Hanford's LTS Program is defined in DOE's planning document, *Hanford Long-Term Stewardship Program Plan* [1]. The Plan defines the relationship and respective responsibilities between the federal cleanup projects and the LTS Program along with their respective contractors. The LTS Program involves these different parties (cleanup program and contractors) who must work together to achieve the objective for transition of land parcels.

Through the collaborative efforts with the prime contractors on site over the past two years, , 253.8 km<sup>2</sup> (98 mi<sup>2</sup>) of property has been successfully transitioned from the cleanup program to the LTS Program upon completion of active surface cleanup. Upcoming efforts in the near term will include transitioning another large parcel that includes one of the six (6) cocooned reactors on site. These accomplishments relied upon the transparency between DOE cleanup programs and their contractors working together to successfully transition the land while addressing the challenges that arise.

All parties, the three different DOE Programs and their respective prime contractors are dedicated to working together and continuing the progress of transitioning land to LTS, in alignment with the Program Plan and compliant with contractual requirements.

### INTRODUCTION

The U.S. Department of Energy's Hanford Site comprises approximately 1,517 km<sup>2</sup> (586 mi<sup>2</sup>) of land in southeastern Washington. The site was established in 1943 as part of the Manhattan Project to produce plutonium for the nation's nuclear weapons program. The Long-Term Stewardship (LTS) Program at the site is a successful model of collaboration resulting in efficient resolution of issues and accelerated progress that supports DOE's Richland Office 2015 Vision for the Hanford Site.

DOE's planning document *Hanford Long-Term Stewardship Program Plan* [1]. Outlines and defines Hanford's LTS Program. The Plan defines the relationship between the cleanup projects and the LTS Program. This involves **three** different DOE programs—the River Corridor Cleanup Program, the Central

Plateau Cleanup Project and the Mission Support Program (responsible for the LTS Program). It also includes **three** different prime contractors. Mission Support Alliance (MSA) manages the Mission Support Contract (MSC) that includes responsibility for the Hanford LTS Program. Washington Closure Hanford (WCH) is the contractor responsible for the cleanup of the River Corridor area of the Hanford Site under the River Corridor Closure Contract (RCCC). CH2M Hill Plateau Remediation Company (CHPRC) is responsible for cleanup of the Central Plateau and several discrete areas and waste sites within the River Corridor area under the Plateau Remediation Contract. CHPRC is also responsible for managing the ground water program for the entire Hanford Site (including both the River Corridor and Central Plateau). The contractors have different types of contracts; WCH has a cost-plus incentive fee closure contract, and CHPRC and MSA, have cost plus incentive fee with different incentives and differing periods of performance. WCH was awarded the River Corridor Closure Contract in March of 2005, CHPRC in June 2008, and MSA in April 2009. The LTS Program involves multiple entities/contractors that must work together to achieve the objective for transition of waste sites and land parcels from cleanup to post cleanup surveillance and maintenance within the LTS Program. While the LTS Program has been active for over 10 years at Hanford, it is only over the last several years that the program began to actively engage in transitioning parcels of land into the program. The program was updated to address transition (Program Plan), transition processes defined and implemented (contractor procedures and Transition Turnover Package developed), contracts amended to address the transition and the first segment of land successfully transitioned into the LTS Program within a two-year period! The success of the program and resulting transition was due to the full engagement and collaboration of all three DOE programs and all three contractors.

The initial focus of the LTS Program is to transition the lands of the River Corridor geographic area (Fig. 1) which includes the reactor operational areas. WCH is responsible for the majority of the cleanup of the River Corridor, but CHPRC does have responsibility for several waste sites and also the ground water program which requires collaboration between both cleanup contractors and the LTS Program (and its contractor, MSA) for each transition. Ultimately, the transition of the River Corridor into the LTS Program will be completed in 14 discrete areas.

Early in 2009, DOE began discussing the opportunity to transition portions of the River Corridor where cleanup had been completed out of the cleanup program into the LTS Program. It soon became a key component to support DOE's 2015 footprint reduction and also supported WCH's exit strategy for completing their workscope as identified in the RCCC. The DOE LTS Program established an Integrated Project Team (IPT) that included the River Corridor Cleanup Program, the Central Plateau Cleanup Project along with the three prime contractors, WCH, PRC, and MSA. This team met weekly to discuss and resolve the various issues including contract changes, which allowed for early transition of the cleaned up areas from WCH to MSA. The IPT was instrumental in reviewing and commenting on changes to the LTS Program Plan as it was being developed, as well as assisting in developing the Transition and Turnover Package templates and criteria used for transition. This team established a collaborative approach in which all issues were identified and dealt with in an open and transparent manner.

Transitioning post closure S&M activities from WCH to MSA in separate contract actions allows WCH to incrementally closeout portions of their contract through time, minimizing contract closeout after the period of performance is expired. Because WCH's contract expires in 2015, all parties are motivated to ensure smooth transition that will seamlessly transfer management responsibilities for land and waste sites and minimize contract changes.

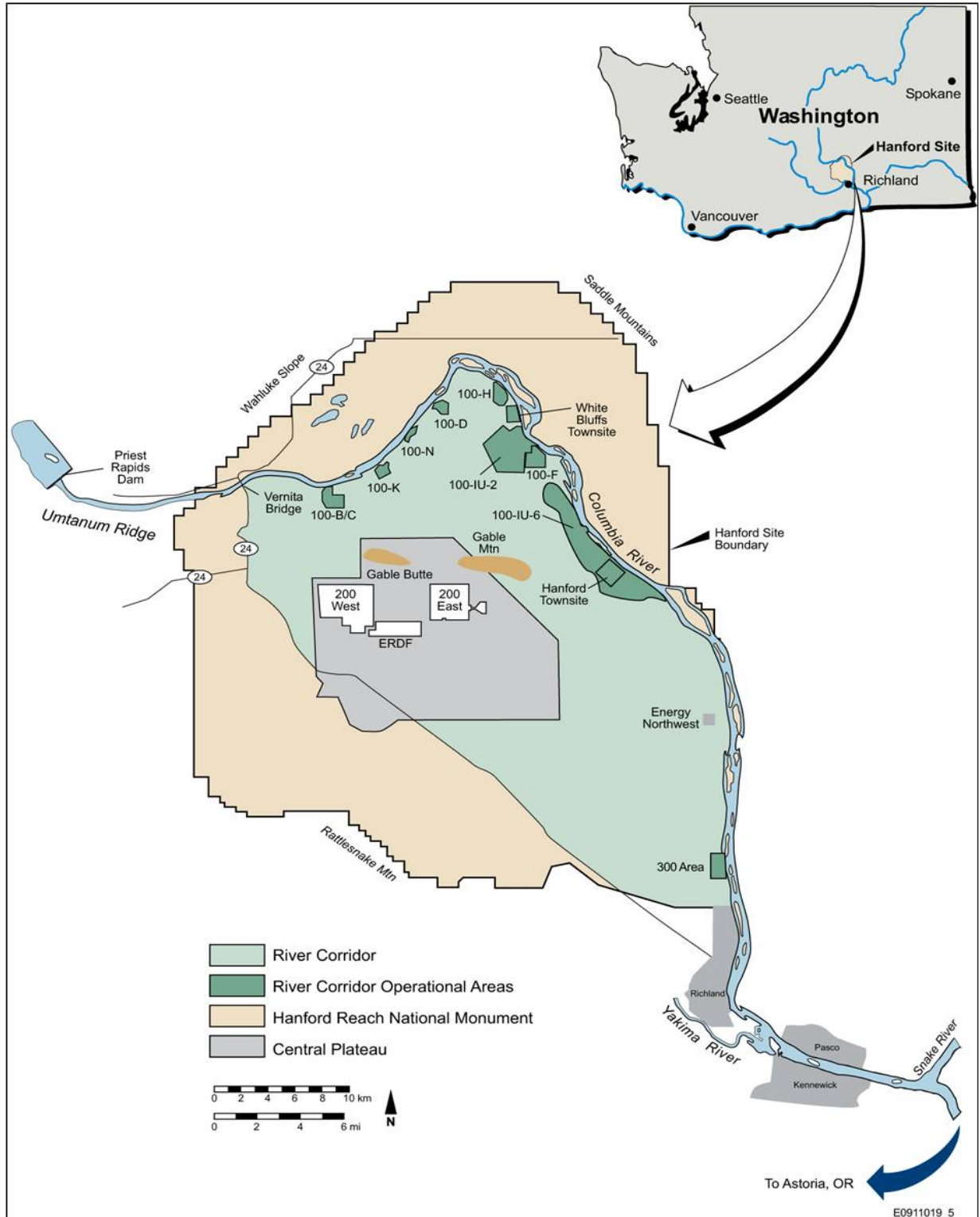


Fig. 1. Site location Map and Geographic Areas

## DESCRIPTION

The Hanford Site cleanup is divided into three major geographic components including the Hanford Reach National Monument, the River Corridor and the Central Plateau (Fig. 1).

- Hanford Reach National Monument— The Hanford Reach National Monument was established in 2000 through a Presidential Decree [2] and is comprised of approximately 777 km<sup>2</sup> (~300 mi<sup>2</sup>), of which 673 km<sup>2</sup> (~260 mi<sup>2</sup>) is managed by the U.S. Fish and Wildlife Service. The area included in the monument was generally used as a security buffer zone and did not require a significant cleanup. The cleanup did include removal of debris piles, excess facilities and abandoned experiments and was completed in fiscal year 2011. DOE retains primary ownership and control the lands with the monument.
- River Corridor—The River Corridor is comprised of approximately 570 km<sup>2</sup> (220 mi<sup>2</sup>) and includes the reactor operational areas and the 300 Area. Completion of the River Corridor cleanup component is planned for calendar year 2015 as part of the vision 2015 for Hanford. The River Corridor is being cleaned up to the criteria specified in the associated Interim Action Records of Decision (IARODs). Currently, more than half of the River Corridor work scope is complete. Between 2013 and 2015, all geographical areas of the River Corridor will be cleaned up consistent with the IARODs. Groundwater remediation activities have been implemented and will continue after cleanup completion of the River Corridor component.
- Central Plateau—The Central Plateau area includes approximately 204 km<sup>2</sup> (80 mi<sup>2</sup>) located in the central area of the Hanford Site and includes many of the former processing facilities, tank farms, burial grounds and the Waste Treatment Plant (WTP). Cleanup of the Central Plateau area will focus on reducing the active footprint to less than 10 mi<sup>2</sup>, which will be dedicated to long-term waste management and containment of residual contamination. The outer area waste sites are being cleaned to levels comparable with the River Corridor cleanup. The outer area will be cleaned up to the criteria specified in the Outer Area CERCLA ROD, with cleanup completion planned between 2015 and 2020. Completion of the inner area will follow.

The RCCC ends in 2015 and all efforts are being made to complete the scope within that time period. The transition process is designed to support WCH with their 2015 exit strategy. The transitions allow WCH to eliminate continued post closure S&M activities while they focus on completing their work scope across the River Corridor area. Collaboration between WCH and MSA is paramount as each contractor must be ready for transition simultaneously to facilitate a smooth contract change.

In addition to the transition of the land, infrastructure, waste sites and cocooned production reactors, there are a variety of issues that we must identify and address prior to the actual contract change. Typically these issues are not easily defined scope elements and only through collaboration and a willingness to move forward for DOE are they resolved in a timely manner. The establishment of the IPT and the collaborative environment it fostered was a key element in resolving issues in a timely manner that allowed the program to be developed and implemented in such an accelerated fashion.

## DISCUSSION

Over the past two years, through the collaborative efforts of the RCCC and MSC, over 253.8 km<sup>2</sup> (98 mi<sup>2</sup>) have been transitioned to the LTS Program at the Hanford Site. The IPT currently is working on the document to transition the first cocooned production reactor (100-F). These first transitions (Segment 1, Segment 2 & Segment 3) and the future transitions rely on the transparency between the contractors and DOE working together to successfully transition the land while addressing the challenges that arise. Table I identifies the 14 Areas to be transitioned (Segment 1, Segment 2 & Segment 3 have already been transitioned) and some of the associated metrics.

**TABLE I. List of Areas and Associated Metrics**

Segment/Area	Total Hectares	Waste Sites	Wells
Segment 1	7,350	16	124
Segment 2	8,126	5	161
Segment 3	9,908	5	262
100-F <sup>a</sup>	465	148	144
Segment 5/400 Area	14,534	119	703
100-IU-2	801	1	38
100-IU-6	2,752	3	115
100-B/C <sup>a</sup>	1,154	116	137
100-K <sup>a</sup>	897	148	230
100-H <sup>a</sup>	~1,416	~175	~444
100-D/DR <sup>a</sup>	~614	~70	~147
100-N <sup>a</sup>	889	171	447
Segment 4	~8,167	~29	183
300 Area	417	406	228

<sup>a</sup> Reactor Areas

The collaboration challenges faced can be categorized into programmatic, scope and schedule that are encompassed in a first-of-its-kind program for DOE. Some of the more substantial challenges are discussed below.

### Programmatic

Collaboration within the program is accomplished at all levels.

The LTS Program established an IPT that initially met weekly, but now meets bi-weekly, to status current activities and identify actions. The IPT includes WCH, MSA, CHPRC, and DOE personnel. The IPT team is comprised of project and program managers as well as subject matter experts from both DOE programs and the contractors. Senior managers are briefed or included as needed depending on the issues on the agenda. These bi-weekly meetings are invaluable in building team relationships and trust among contractors and DOE. The team atmosphere pervades as long as all parties understand the goals and work toward the same prize.

Detailed issues are often resolved at the individual level. Team members work side-by-side to solve minor issues and resolve actions assigned at the IPT. These one-on-one interactions keep the TTP progress moving forward and provide the opportunity for grass roots innovation that continually improves the program. During one such exchange, the effectiveness of one of the program guidance documents was challenged. Through further discussion it was decided that the document was not necessary and it was

eliminated. The elimination of an ineffective program document saved money and time on future revisions and supported streamlining our entire document preparation process.

The prime contractors hold monthly interface meetings to raise issues that might impact scope, schedule, or budget (contract space). The issues are then vetted for solutions and resolved as appropriate. Those issues requiring contract modifications are worked with the company's contracting officer.

The IPT members have encountered numerous learning moments while establishing the new program. The team has overcome the natural tendency to shy away from change by overcommunicating the process and providing a clear vision with concrete and measurable progress milestones. The team members aggressively manage the schedule to establish a high level of confidence and hold individuals accountable for their assigned tasks. These actions have so far resulted in this high-performing team beating every deliverable to date and within the established budget.

The emotional factor involved in first-of-its-kind-work has been interesting. While some tasks have been ongoing for years, transition of relatively new or unique scope to another contractor is still fairly new. MSA is involved in providing infrastructure support to the entire Hanford Site. The LTS, adds a new dimension by entering into post closure monitoring for waste sites and S&M activities on six (6) cocooned plutonium production reactors. Fig. 2 depicts the F Area cocooned reactor. These post closure LTS activities present new challenges and risks associated with this type of work. Establishing strong risk management provides assurances that the risks are minimized while maintaining forward momentum. A central key to successful risk mitigation is to clearly identify and quantify the risks. The IPT has worked in a collaborative approach to help identify the risks associated with these activities. Subject matter experts and contracting specialists also are involved in reviewing these activities and provide input on potential contract impacts and regularly brief senior management on progress and upcoming transition activities.

In a situation where one contract is ending and another contract is growing, the potential exists for personal stress. The fact that both contractors recognize this and promote open discussions minimizes the potentially negative impacts. As the outgoing contractor, WCH has established a robust program that includes partnering with DOE and regulators to ensure success; executing schedules; engaging the workforce and aggressively managing the transition. As a result, WCH employees accept that transition is happening and continue to perform at high levels.



Fig. 2. Cocooned F Area Reactor.

## Scope

Identifying scope - We accomplish transition to LTS through a Transition and Turnover Package (TTP). The TTP is the technical document that transitions a parcel of land from WCH and facilitates the contractual modification to MSA. The TTP summarizes the history of the parcel, and identifies what remedial actions were accomplished and what was left in place. The initial portion of the TTP package is prepared by WCH and provided to MSA; MSA then integrates additional information and submits draft and final versions of the TTP to DOE. DOE uses the Final TTP to execute the appropriate contract changes to MSA.

Differing Performance Incentives - MSA Performance Incentives are tied to the TTP documents and transitions. WCH incentives are tied to cleanup completion. Both MSA and WCH are motivated to work together for the benefit of DOE, moving land, facilities, infrastructure and cleaned up waste sites out of the cleanup program and into LTS. Since this is a first-of-its-kind program, many of the detail scope elements are not laid out in the contract documents. Initial contracts for WCH had them transitioning the River Corridor to the MSC at the end of their contract once cleanup was complete to the MSC. MSA's contract had it receiving the River Corridor at the completion of the WCH contract. No provisions were included for early transition or transition in smaller segments. This had the potential to cause conflicts; however, through open dialog between team members, these contractual issues were brought to the IPT meetings and contractually compliant resolutions were negotiated.

Another challenge overcome was the identification of a new waste site during the site walk of the first parcel of land transitioned. The identified waste site was not assigned to either WCH or the MSA. Without contractual assignment, the transition could have stalled. The LTS Program Plan had anticipated this scenario and the newly identified site was placed on a "punch list" that is included in the TTP. The effect is that DOE was able to transition the land and make a contractual assignment for responsibility of the waste site after transition.

## Schedule

Rarely is it a positive situation when one contractor's performance is tied to another contractor's work. This is the LTS Program during transition. WCH is under contract to DOE for cleaning up waste sites and removing buildings in the River Corridor under CERCLA. MSA's schedule and performance incentives are dependent on WCH's support of the TTP. Table II shows the planned schedule for transition of areas to LTS.

To date, there have been no instances where one contractor's performance has hindered another. Both contractors, performing within their contracts, diligently work closely together and with DOE to ensure seamless transitions and cooperation on schedules.

Since WCH's contract expires in 2015, there is significant pressure to transition elements to LTS as quickly as possible. LTS must be ready and flexible to accept. A current schedule challenge relates to the early transition of five cocooned production reactors. Initially, during scoping and budgeting, the reactors were to come to LTS sequentially over a three year period. However, through contractor discussion, an idea for early transition of all five reactors at one time was evaluated. The idea supports WCH's 2015 exit strategy and demonstrates the LTS Program's flexibility and ability to adapt to changing conditions. It includes transfer of WCH's procedures for reactor monitoring to MSA allowing them to blue sheet the procedures and not reinvent the wheel. MSA personnel shadowed WCH during entry of one reactor gaining valuable knowledge. Additionally, part of the new process would allow DOE to defer costs for future reactor monitoring saving an estimated \$100,000 per monitoring cycle. This type of creative collaboration between contractors is a supporting pillar of the LTS Program.

TABLE II. Area Transition Schedule

<b>Segment / Area</b>	<b>Estimated Transition to LTS</b>
Segment 1	2012 <sup>a</sup>
Segment 2	2012 <sup>a</sup>
Segment 3	2012 <sup>a</sup>
100-F	2013 <sup>b</sup>
Segment 5/400 Area	2013
100-IU-2	2014
100-IU-6	2014
100-B/C	2014
100-K	2014
100-H	2015
100-D/DR	2015
100-N	2015
Segment 4	2015
300 Area	2015

a transition complete  
 b transition in progress

### Benefits

By actively closing and transitioning the River Corridor in smaller parcels through time, WCH is able to provide closure documentation on a manageable scale. This allows DOE to validate contract closure items and final payment items in a timely and organized fashion. Without incremental closure made possible by transition to LTS, DOE and WCH would face a monumental contract closeout period covering literally thousands of items at one time. By working together and helping to keep the LTS transition on schedule and moving forward, the MSA contract directly supports the efficient closeout of the RCCC. This is only possible when all parties are working toward the same goal and interact with each other.

### CONCLUSIONS

The successful model of transitioning post closure S&M activities at Hanford is one of collaboration and transparency between contractors and DOE. The LTS Program at Hanford was established to support DOE's 2015 vision and the exit strategy for the cleanup contract. Transitioning land and waste sites early allows cleanup contractors to focus on cleanup and not be burdened with the ongoing post closure S&M. Incrementally closing parts of the site through time provides an organized and streamlined contract closeout benefiting DOE and the RCCC.

The challenges overcome to accomplish this success were significant. Establishing a new LTS Program, competitive contractors, competing priorities, multiple aggressive schedules and fiscal realities require all parties to see past the immediate issue at hand and focus on the larger goal. Only then were mutually beneficial agreements reached and progressive actions completed that continue to drive the program forward and challenge each member to improve continuously.

### REFERENCES

1. DOE/RL-2010-35 Rev 1 Hanford Long-Term Stewardship Program Plan



2. Presidential Proclamation 7319; June 9, 2000