

## Long-Term Stewardship for RCRA Corrective Action Workshop August 28 – 29, 2018

### Workshop Summary

The Long-Term Stewardship for RCRA Corrective Action (LTS) Workshop was held on August 28-29, 2018 at the EPA offices in Arlington, VA. Participants in the day-and-a-half meeting were from EPA Headquarters (17), EPA Regions (24) and States (21).

Three documents related to the Workshop are included as attachments:

1. Attachment 1: Workshop Agenda
2. Attachment 2: Background Long Term Stewardship slides for opening session
3. Attachment 3: Wrap-up/closing slides developed during the conference

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### Opening Remarks

EPA Office of Resource Conservation and Recovery (ORCR) Director, Barnes Johnson, welcomed participants. In his opening remarks, he noted that the Resource Conservation and Recovery Act (RCRA) hazardous waste Corrective Action Program is maturing, with many corrective action facilities moving through the cleanup pipeline. He highlighted the critical importance of EPA's partnership with the states in leading the Corrective Action Program. Mr. Johnson provided context by pointing out that LTS is also a component of other cleanup programs, including Superfund and Brownfields. He pointed out that there is existing guidance on LTS. It will be important to identify the guidance and approaches that are currently working well in discussions of LTS. Mr. Johnson reviewed the meeting objectives and encouraged active participation. He expressed interest in seeing action items come out of the Workshop, and sees the meeting as the beginning of an ongoing dialogue.

Steven Cook, Deputy Assistant Administrator of the EPA Office of Land and Emergency Management (OLEM), said that LTS is a critically important issue. He indicated that the challenge is to envision a world twenty years from now and ensure that effective mechanisms are in place to protect human health and the environment. He noted the need to determine how institutional controls (ICs) and engineering controls (ECs) will be monitored and maintained over the long term.

ORCR Cleanup Programs Branch Chief, Charlotte Mooney, reviewed introductory slides on LTS (Attachment 2). She reviewed four corrective action measures and the great progress the Corrective Action Program has made over time. She also highlighted the importance of the Long-Term Performance Measure, RCRA Ready for Anticipated Use (RAU), in the new EPA Strategic Plan. For LTS, she noted the need to focus on contamination left in place and on information management. She noted that the strength of the RCRA Program is its flexibility, which will be needed in effectively incorporating LTS into the Program. She suggested a path

of identifying the key components of LTS and then working on ways to achieve them in the program, e.g., through best management practices and tools. She noted that a transition to longer term management is already occurring in many states and for many facilities. EPA expects to work collaboratively with states and stakeholders to develop an LTS framework. Sara Rasmussen, ORCR, noted that remedy selection and construction is where LTS is launched for a specific facility. The Program is focusing on LTS now because a significant number of facilities have achieved remedy construction. About one-third of the corrective action 2020 facilities have ICs and/or ECs in place that will need to be monitored and maintained over the long term.

Joe Cisneros of EPA Region 5, the regional sub-lead for the RCRA Corrective Action Program, noted his interest in seeing consistency at the federal level and also with states, and in knowing what has and has not worked. He mentioned the various places where LTS begins, i.e., at the fence line, with the cover, with the protective measures taken before a remedy is put in place, which he noted are actually ICs and ECs. LTS is also part of interim measures, e.g., pump and treat, and monitoring. He indicated that financial assurance will be critical for LTS. Mr. Cisneros also noted the importance of databases, not just for tracking purposes but also for using the information to make facility and program decisions.

Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Corrective Action and Permitting (CAP) Task Force Chair Paula Bansch (Indiana) noted that RCRA is a prevention program, and so is LTS, even though it is being discussed in the context of a remediation program. LTS supports activities that prevent issues and protect human health and the environment into the future. She noted that EPA and states are all stewards of the environment. Ms. Bansch indicated that the ASTSWMO CAP Task Force looks forward to working with EPA to address LTS.

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## Overview of Potential RCRA Corrective Action LTS Components

### Discussion of Responses to Registration Questions

The Workshop registration questions were shared and discussed.<sup>1</sup> The facilitator noted that there is a desire to expand the list of LTS tools available. Suggestions included model permit and order conditions that can be used by regions and states to implement LTS. Participants raised the need for a tool to evaluate older sites as toxicity information changes or when emerging contaminants arise. There was an observation that public education tools are needed to explain LTS generally and to identify LTS mechanisms in place at a specific facility. Participants also mentioned the importance of agreeing on vocabulary, because unclear

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<sup>1</sup>Does your region/state have an LTS program for corrective action? Cross-programmatic LTS program? LTS Webpage? Do you work on corrective action facilities that have LTS needs? Do you have LTS tools/best management practices to share? What additional LTS tools would you like to have? How many years have you worked in RCRA corrective action?

information can be a barrier to effective LTS. For example, terms like “clean up,” “capped,” “covered,” and “safe for reuse” need to be defined. It was noted that EPA’s web-based communication tool, “Cleanups in My Community,” which was demonstrated, offered a good example of how to provide information on cleanups for the public.

### **Definition of Corrective Action**

During the discussion of tools, the potential for additional EPA rulemaking and EPA’s authority for Long Term Stewardship at corrective action facilities were brought up. This led to the suggestion that a definition of Long-Term Stewardship for corrective action be provided to ensure that everyone is on the same page. Sonya Sasseville, ORCR Program Implementation and Information Division Director, noted that some people may think of corrective action and cleanup as the same thing. However, in terms of EPA’s authority and obligations under RCRA, it is important to know whether the facility is a Treatment, Storage or Disposal facility (TSDF) or not. This is a key question because the RCRA statute provides authority for corrective action at TSDFs under section 3004(u) and (v) (permitting), and section 3008(h) (enforcement).

### **LTS Component Areas**

Participants discussed critical components of LTS in the following areas identified prior to the Workshop. It was clarified that this was not intended to be an exhaustive list. After initial discussions of each component, participants returned to each for a “deeper dive” and more in-depth consideration.

#### Assessment and monitoring

Region 7 noted that they use the term “assessment” rather than “inspection” for LTS facility condition reviews. Some states noted that most LTS facilities are under permits or orders, and that they work well, although there is an administrative workload in maintaining them. It was noted that some facilities that are no longer operating, but are conducting long-term monitoring, want to be released from their permit. Several states described a potential approach where LTS activities may be transitioned to environmental covenants. They suggested that the Uniform Environmental Covenants Act (UECA) may provide a level of enforceability and that there is a certain comfort level with covenants if they impose conditions that remain in place despite ownership changes – the so-called ‘run with the land’ principle. There was one recommendation that guidance is needed to identify minimum standards for covenants, along with guidance on how to use environmental covenants to enforce LTS requirements.

Participants returned to the issues of permits, orders, and environmental covenants in the more in-depth discussion of assessment and monitoring. State participants were asked how states manage LTS at former RCRA corrective action facilities. One state provided an example of LTS at a RCRA corrective action facility being covered under the UECA where there is the authority to inspect under the UECA and financial assurance may be included. Another state noted an example where a facility that can clean close under RCRA with a facility-wide corrective action

plan could be managed under various mechanisms, including, for example, a UECA document. Another example provided by a state was that once corrective action has been completed, the facility could be moved to the Brownfields Program.

There was further discussion of the programs and authorities that can be used to address LTS. It was recognized that the issue of transitioning among programs and authorities is complex, and that there are many variables that may impact a particular situation including state-specific laws, programs, and regulations. Several participants noted that this is a crucial matter that warrants further discussion. It was suggested that perhaps general guidelines could be developed for deciding how to manage LTS in various situations.

#### Database development and utilization

It was noted that there are many possible options for development and utilization of electronic databases to assist with managing LTS requirements for RCRA corrective action facilities. Missouri and Superfund databases were mentioned as good examples. Region 7 has developed an LTS database which includes GIS and daily updates from RCRAInfo, including ICs and ECs. Region 7 presented its database, an internal tool that could serve as a broader example.

The potential use of RCRAInfo to track LTS information for corrective action facilities was mentioned several times by various participants. This could include enforcement mechanisms in use and LTS requirements applicable to a particular facility. EPA HQ mentioned that additions to support LTS could be made to the Corrective Action Module of RCRAInfo with upcoming Version 6 upgrades. For example, a code for LTS could be added with a link to a code in the Compliance, Monitoring, and Enforcement (CM&E) module. Other possible additions mentioned included covenants, monitoring results, and post-closure ICs.

It was mentioned that states would like it to be easier to use RCRAInfo. EPA responded that the upcoming Version 6 upgrade to the Corrective Action Module is intended to make it more user friendly. It was suggested that perhaps part of the “Financial Assurance Compliance Tracking Tool” could be incorporated into RCRAInfo.

#### Mapping and other digital tools

- Mapping:

A variety of EPA mapping systems were noted, and a few were presented over the course of the Workshop, including:

- Cleanups in My Community – This is a hazardous waste cleanups website, and updates occur automatically, pulling information from a series of EPA databases. It was suggested that more attributes could be added for RCRAInfo. EPA is currently working to upgrade Cleanups in My Community to provide autogenerated facility pages with more data from RCRAInfo, standard GIS maps, and space for additional facility-specific information.

There was a recommendation to consider maps and systems that already exist as resources to feed into LTS database information. Examples of mapping systems and mapping requirements were mentioned, including those of Connecticut, Indiana, North Carolina, and Region 3. The importance of identifying and efficiently sharing information was highlighted. EPA noted that map data may not be 100% accurate, so appropriate disclaimers must be included. It was noted that effective mapping aids the public, as well as states and regulators, in finding information about cleanups.

The EPA Office of Site Remediation and Enforcement (OSRE) participant pointed out a resource to consider – a July 2018 memorandum “Advanced Monitoring Technologies and Approaches to Support Long-Term Stewardship.” This memo provides information about potential uses of specific advanced monitoring technologies and approaches for monitoring and maintaining ICs and ECs. The memorandum provides case studies using six technologies. The OSRE representative also mentioned a 2012 IC implementation plan that offers specific information on using ICs.

- Checklists:

It was noted that checklists can be effective tools for managing complex information over time. Several LTS checklists used by EPA regions were noted. Region 1 presented their checklist, which is used internally. Region 3 and Region 5 have checklists for LTS inspections.

Standard Operating Procedures (SOPs) and other implementing procedures; Policy, legal and authority issues; Finding resources and solutions for LTS; State and federal coordination

The above four components were grouped for discussion because legal authority and resources feed into SOPs and lead to discussions about uniformity, i.e., where is the line of consistency and where should there be room for state/regional and site-specific differences? In general, parties seek consistent SOPs, and it was suggested that routine approaches would be most helpful. A state participant noted that if SOPs or Standard Operating Guidelines (SOGs) are developed, states will need to identify resources for implementation. A state representative also commented that in some cases a standardized procedure may not be adequate, and suggested that rulemaking may be the best approach. One participant expressed the view that there should be procedures for maintaining protection of the site and of human health and the environment as long as the facility is subject to corrective action.

EPA HQ asked for ideas regarding potential new SOPs for LTS. Suggestions were offered, including:

- For LTS reviews, focus on assessing potential human exposure and ensuring that risk assessment includes looking at complete pathways for exposure
- For LTS reviews, consider approaches that would allow for revisiting previous screening-level assessments
- Consider how environmental covenants and other mechanisms could be used to trigger risk assessment

- SOPs should be general rather than prescriptive because state programs are mature and many already have a great deal of experience with LTS

#### Information dissemination and communications; Program goals and metrics, using RCRAInfo; Addressing remedy failure

The last three components were grouped because they are closely related. One participant suggested that metrics for LTS would be important to ensure protection over time at corrective action facilities. EPA HQ noted the importance of data consistency across programs and said that it is currently working on guidance for data consistency. The importance of addressing remedy failure was highlighted by an example of failure of a financial trust at an LTS facility.

#### **Presentations of Examples of LTS Components by States and Regions**

Brief presentations from state and regional participants proceeded on the following topics:

- *Connecticut's stewardship program.* Connecticut has an existing Stewardship Permit program. Connecticut is working with Region 1 on LTS assessments; three have been done so far. Connecticut and Region 1 hope to continue working together to bring the state stewardship permit program/concept and Region 1's LTS work together cohesively.
- *Region 1's LTS checklist, database, and LTS Assessment business process.* Region 1's corrective action database (version 1) has been modified to support LTS assessments. Region 1 will continue to enhance the database and electronic process. Region 1 is working toward making the assessments and other corrective action documents accessible to the public and project managers.
- *In North Carolina, LTS is a process, not a program.* The Hazardous Waste Section looks at facilities where the permit has been terminated. There is risk-based closure; contamination is still present, but the facility is required to have a proclamation of required land use restriction which runs with the land and is required by statute.
- *Region 3 mapping.* Facility mapping started in the Region in 2014. Maps and facility LTS information are on a public website and local officials are kept up to date. The maps show areas subject to ICs and ECs. Region 3 uses a non-electronic checklist.
- *Arizona management of long-term legacy sites.* Arizona does not have a formal LTS program. It has a deed-restriction program – the Declaration of Environmental Use Restrictions (DEUR) program. The DEUR runs with the land, addresses ICs and ECs, and can be used by all remediation programs. Arizona's DEUR program also includes authority for fees, annual reporting, inspections/enforcement, and financial assurance for ECs. The State is just beginning to look at LTS at RCRA corrective action facilities using something other than a permit, and is getting creative about using other tools. Arizona has had a lot of assistance from Region 9.

## Resources for LTS

The need for long-term funding and resources, and avoiding duplication of efforts, was raised. Participants were asked what kind of financial and personnel resources were required, what kind of constraints exist, and how next steps will be financed. There was feedback that states with LTS need to factor in resource allocations, and that funding for regions may vary depending on the status of work on facilities in their regions. Concern about funding for corrective action facilities where perfluorinated alkyl substances (PFAS) are found was also raised. Concern was also expressed about the possibility of funding running out when cleanups take longer than anticipated. It was noted that financial assurance from the owner is important to avoid this.

Region 7 mentioned coordination with the states in the region on LTS activities, which are addressed in state grant workplans.

Funding for LTS in the context of other priorities was brought up. The impacts of limited funding and other resources on LTS activities, as well as the funding and resource impacts of LTS on other priorities was mentioned. One EPA regional representative mentioned that the priority for the Corrective Action Program has been on achieving the four Government Performance and Results Act (GPRA) measures. It was noted that EPA's Strategic Plan has now prioritized the Ready for Anticipated Use (RAU) measure, which specifically addresses some LTS issues, such as ICs and ECs. It was suggested that it will be important to effectively integrate LTS activities with the RAU measure and to balance priorities and resources effectively.

## Day 2 - Moving LTS Forward

The Workshop facilitator presented a proposed outline for Day 2 discussions (see Attachment 3).

- What do states most need in LTS, and what are they most excited about?
- What is a potential vision for LTS in Corrective Action?
- What are the best areas for concrete future collaboration and activity?
- Next steps

Participants shared reflections from the prior day. One EPA participant noted that RAU could be EPA's primary indicator for LTS, and that a key element of RAU is human exposure. The participant noted that this requires identifying potential pathways between contamination and human receptors, and suggested that emerging contaminants must be considered.

One participant observed that some state participants indicated that they use environmental covenants (i.e., UECA) and others do not. It was suggested that baseline information be gathered about states with UECA or other covenant programs and what those programs allow states to do.

An EPA participant suggested that RCRAInfo codes for LTS could be helpful for program-wide LTS status information and for site-specific information. Suggested data elements included LTS status, assessment activity, and whether LTS issues have been identified.

State participants were invited to share their perspectives regarding states' needs, and the following responses were noted:

- In general, known risk pathways have already been evaluated. New pathways should be an element of LTS.
- Costs associated with LTS were brought up. One state participant indicated interest in learning how other states have minimized costs.
- It was noted that LTS is for the public, so that remaining contamination is known. An easy way to show contamination is through a map.
- One participant noted that states have many responsibilities and need to know the EPA priority of LTS. For example, if LTS is added to the state grant plans negotiated with EPA, what does it replace?
- Another participant echoed that mapping and public accessibility are critical. The participant commended EPA's Cleanups in My Community website, and suggested that property information and ownership could be made available to the local community through, for example, a county website.
- Assistance in messaging to the public and the regulated community that LTS is a positive step and is forthcoming would be helpful.
- One state indicated it will likely consolidate LTS programs, so that LTS for RCRA corrective action will mesh with other programs, e.g., Tanks.
- Harmonization with other programs was echoed by another state participant, who noted it would be helpful to have a more unified, harmonized LTS.

One state participant observed from the first day that the term "process" would be a more appropriate term than "program," since there are different ways of implementing LTS. The state might not develop a stand-alone LTS program, but a process would be helpful.

## Next Steps

To close out the Workshop, participants considered draft proposed next steps identified by the facilitator based on the Workshop discussions. As revised, the proposed next steps are below (see Attachment 3 for more detail).

Four Areas for Concrete Future Collaboration:

1. Definition of LTS and flow diagram of LTS process components
2. Collaborative work space
3. Continuing sharing of expertise
4. Ongoing dialog and future meetings

Reactions from states to the four areas proposed included:



- For training and information exchange, suggest referencing best practices in use now, which can evolve over time, rather than waiting for consensus.
- LTS needs to be defined, including whether it is considered a program or a process, and how RCRA Corrective Action LTS fits with other programs.
- LTS may be defined as a process with certain elements, but there is also the need to meet certain RCRA and CERCLA requirements, so elements should be common as much as possible across programs.
- Defining the universe of LTS, and identifying the facilities currently in LTS, were raised. For example, does the universe include closed interim status facilities that have not gone through the corrective action process; there was a sense among participants that it would include such facilities.
- An EPA participant suggested that attention to LTS should occur through the life of the facility, including identifying long-term challenges and supporting data.
- A state participant suggested that EPA develop guidance and ideas as to how to approach different situations; tools and resources will be helpful to states.
- A state participant expressed interest in uniform guidance about how to coordinate LTS across programs.
- A state participant noted that guidance, policy, procedures and clarifying the terms LTS and RAU would help put everyone on the same page. It is important that everyone use the same words and know what they mean.
- A state participant encouraged EPA to maintain flexibility because states are currently implementing LTS at many facilities.
- Options for coding LTS information in RCRAInfo were suggested. The importance of national consistency for effective communication was noted. Utilizing existing IC and EC codes was mentioned.

When regions were asked to identify their priority areas, responses included the following:

- Working collaboratively with states, and consideration of state priorities, were mentioned along with the right level of consistency and flexibility for states.
- Working with authorized states to see how the region can support their work and what assistance states need from the region.
- Doing on-the-ground work on remedies, and working concretely with states.
- Monitoring and assessment was identified by one participant as the greatest need.
- Mapping, with one region saying there should be a minimum level of information in Cleanups in My Community, with the hope that could be done quickly.
- Interest was expressed in continuing to build on the Workshop discussions.

## Closing

As next steps from the Workshop, participants were supportive of the Workshop planning group identifying and planning follow-on work based on the four areas for concrete collaboration. It was agreed that the meeting summary and next steps planning would be sent to all workshop participants.

During closing comments and thanks to the group, Mr. Cook expressed appreciation for the participation of EPA regions and states, indicating it is critical to hear from the field. He added that it is important to hear directly from states, including highlighting the type of assistance they need from EPA. He noted that corrective action remedies that have any remaining contamination will require strong LTS to ensure effective protection of human health and the environment into the future. Mr. Cook emphasized that an important outcome of the Workshop will be to set a good foundation for LTS that will continue for years to come.

## **ATTACHMENTS**

1. Workshop Agenda
2. Background Long Term Stewardship slides for opening session
3. Wrap-up/closing slides developed during the conference

Attachment 1: Workshop Agenda

## RCRA Corrective Action Long-term Stewardship Workshop – Agenda

**August 28 – 29, 2018**

EPA HQ – One Potomac Yard – South  
2777 S. Crystal Dr., First Floor Conference Room  
Arlington, VA 22202

### Meeting Objectives

- Foster a dialogue between States and EPA that will create partnerships for advancement of LTS of corrective action facilities
- Share experiences from EPA, Regions and States
- Develop a joint vision for the LTS program
- Consider potential components of a Corrective Action LTS program, and
- Identify next steps

**Tuesday, August 28, 2019**

8:00 am Arrive at EPA – Coffee/Tea

8:30 am Welcome, Introductions, and Agenda Review

*Barnes Johnson, Director, Office of Resource Conservation and Recovery*

*Barbara Stinson, Senior Partner, Meridian Institute (under contract to US EPA)*

- Meeting Goals and Objectives
- Roundtable Introductions & Discussion Guidelines
- Review and Comment on Agenda (approach will be flexible, based on discussions)

9:45 am RCRA Corrective Action LTS Program Overviews (15-minute presentation)

- EPA National LTS Program Overview – Goals and Objectives – *Charlotte Mooney, Chief, Cleanup Programs Branch, Office of Resource Conservation and Recovery, U. S. EPA*

- Regional LTS Program Activities Overview – *Joe Cisneros, Chief, Remediation and Reuse Branch, Region 5, U. S. EPA*
  - State LTS Program Activities Overview – *Paula Bansch, Senior Environmental Manager, IN Department of Environmental Management and ASTSWMO Task Force Chair*
  - Other Comments
- 10:30 am      BREAK
- 10:45 am      Overview of Potential RCRA Corrective Action LTS Program Components
- Discuss Responses to Questions and Observations
  - Identify and Discuss Critical Program Components, in areas such as:
    - Assessment and monitoring
    - Database development and utilization
    - Mapping and other digital tools
    - SOP's and other implementing procedures
    - Policy, legal and authority issues
    - Finding resources and solutions for LTS
    - State and federal coordination
    - Information dissemination and communications
    - Program goals and metrics, and using RCRAInfo
    - Addressing remedy failure
- Noon              Example Program Components and Comments from States and Regions (5-minute presentations):
- Connecticut on Comprehensive Approach – *Sandy Brunelli, Environmental Analyst III, CT Department of Energy and Environmental Protection*
  - Region 1 Checklist and Database – *Dan Wainberg, Section Chief, Region 1 EPA*
  - North Carolina's Program Components – *Bud McCarty, Branch Head, NC Department of Environmental Quality*
  - Region 3 Mapping and General Approach – *Luis Pizarro, Associate Director, Region 3 EPA*
  - Arizona on Long-term Legacy Sites – *Robin Thomas, Senior Engineer, AZ Department of Environmental Quality*
- 12:30 pm      Lunch – to be arranged
- 1:30 pm      RCRA Corrective Action LTS Program Discussion (continued)
- What program components are most critical for states? For Regions implementing RCRA Corrective Action LTS? For a National Program?

- In-depth discussion of critical program components.
- Where are the largest gaps and needs in developing effective Corrective Action LTS programs?

3:15 pm BREAK

3:30 pm Sharing LTS Experiences, Stories, Successes and Challenges

- Open, roundtable discussion

5:00 pm Outcomes of Day 1 Discussions and Final Comments

- Should EPA develop best management practices?
- What should be the goals of the Corrective Action LTS?

5:30 pm Adjourn

### **Wednesday, August 29, 2018**

8:00 am Arrive at EPA – Coffee/Tea

8:30 am Agenda Review and Opening Comments

9:00 am Developing a Joint Vision for LTS Corrective Action Program

- National Program Goals and Objectives
- Goals for State & Regions (especially in information sharing, coordination and consistency)
- Looking to 2020 and Beyond 2020 – HQ, Regions and States' Plans

10:30 am BREAK

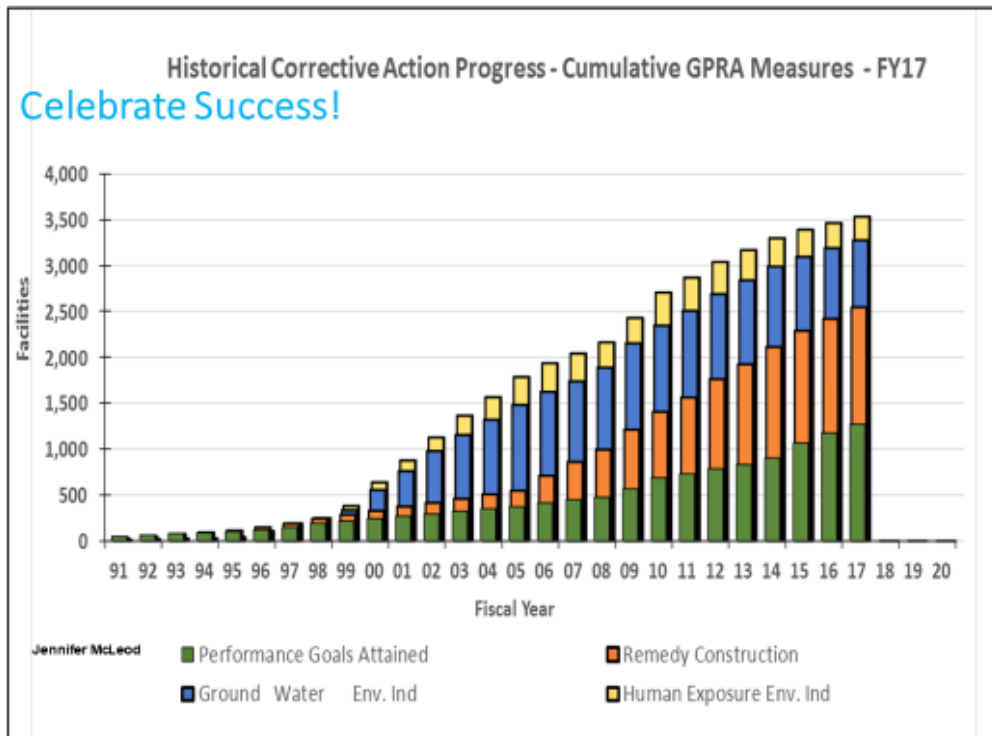
10:45 am Developing a Corrective Action LTS Strategic Plan

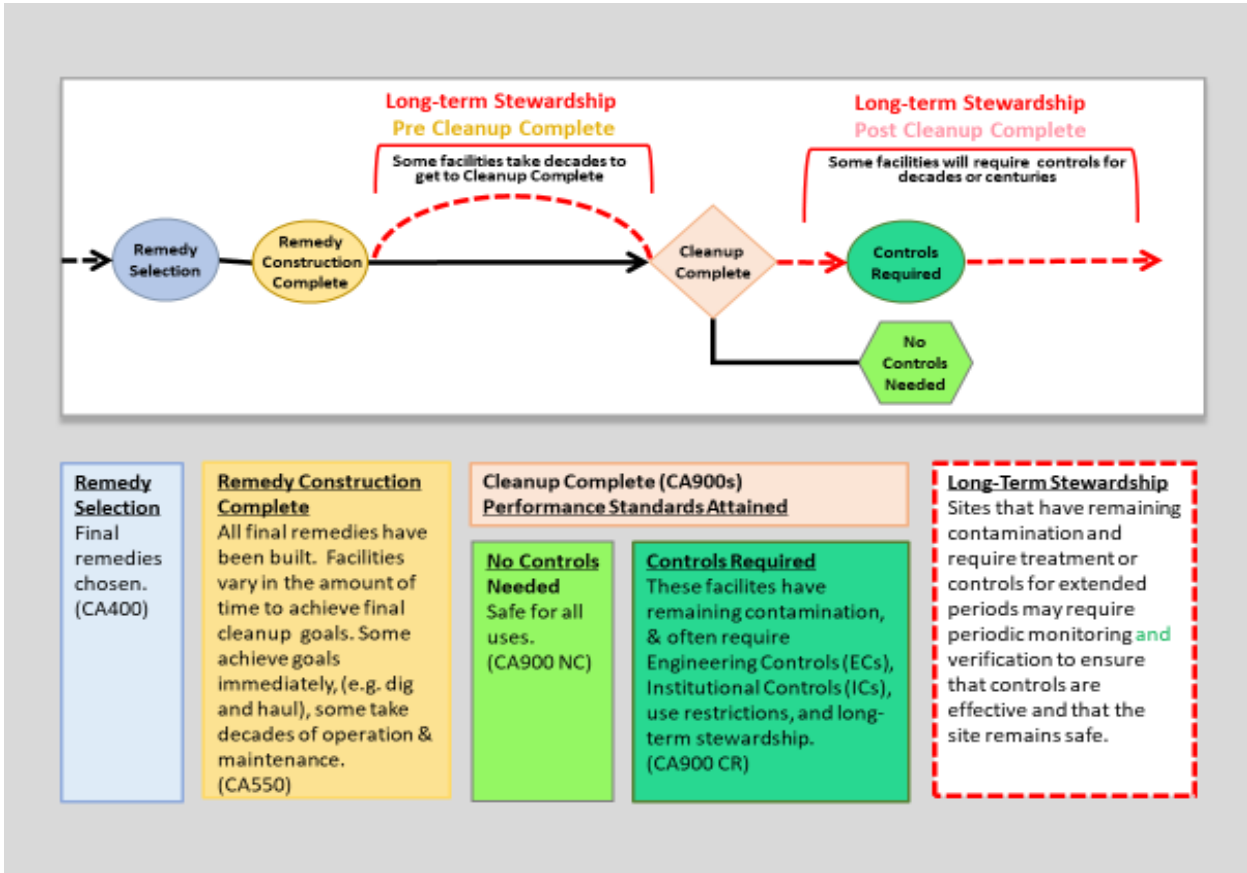
- Next Steps and Activities – Who, what, when and how?
- Future Meetings – Opportunities to Share Information and Progress

12:30 pm Wrap-up and Summary

1:00 pm Adjourn

Attachment 2: Background Long Term Stewardship slides for opening session





**Remedy Selection**  
Final remedies chosen. (CA400)

**Remedy Construction Complete**  
All final remedies have been built. Facilities vary in the amount of time to achieve final cleanup goals. Some achieve goals immediately, (e.g. dig and haul), some take decades of operation & maintenance. (CA550)

**Cleanup Complete (CA900s) Performance Standards Attained**

**No Controls Needed**  
Safe for all uses. (CA900 NC)

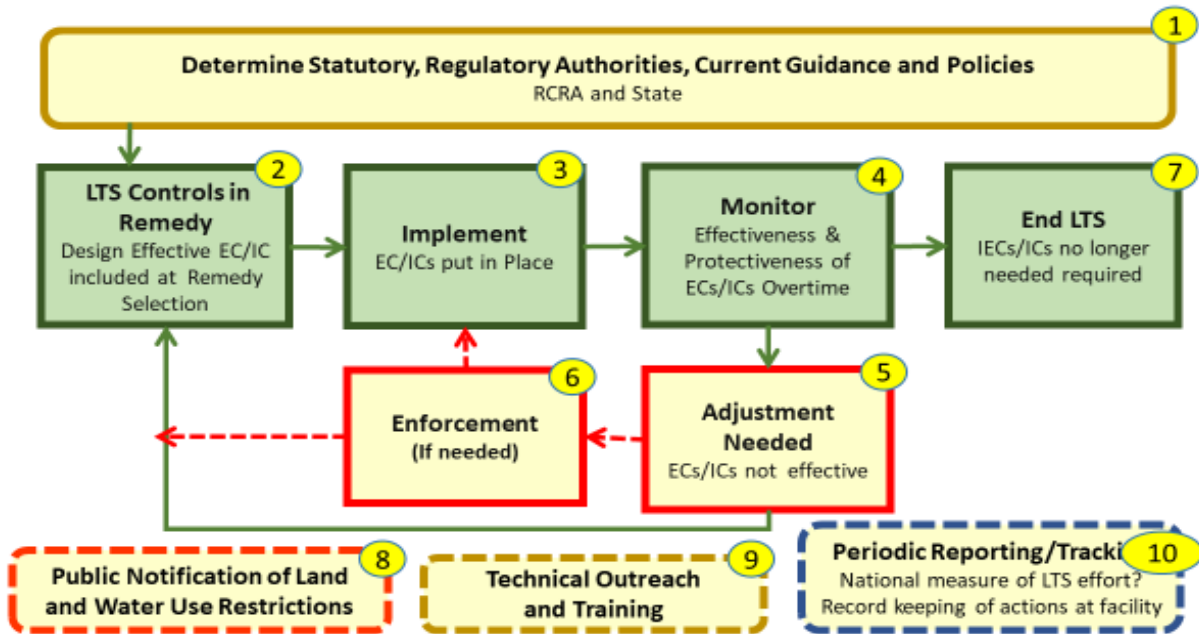
**Controls Required**  
These facilities have remaining contamination, & often require Engineering Controls (ECs), Institutional Controls (ICs), use restrictions, and long-term stewardship. (CA900 CR)

**Long-Term Stewardship**  
Sites that have remaining contamination and require treatment or controls for extended periods may require periodic monitoring and verification to ensure that controls are effective and that the site remains safe.

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## Long-Term Stewardship Process Considerations

To ensure RCRA Corrective Action properties remain protective over time and risks to human health and the environment are effectively controlled.



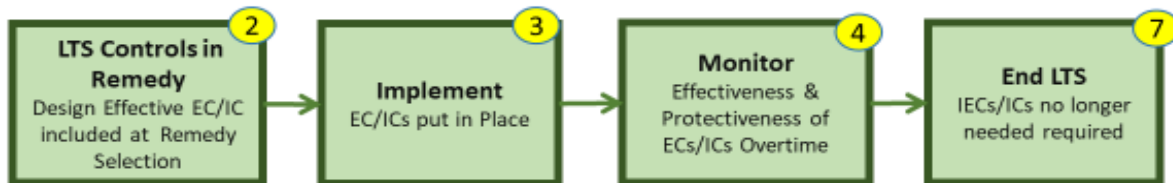


# **LTS Process Considerations**

1. Determine Statutory Authority, Current Regulations, Guidance that impact or apply to RCRA Corrective Action LTS.
2. Design Effective LTS approach, including EC/ICs, at remedy decision or corrective measure study. Identify if there will be contamination left in place, anticipated future use, and a package of ECs and ICs that will be effective for that particular facility (considering State and local laws etc).
3. Implement/maintain ECs/ICs – Ensure they are in place, document them (RCRAINFO considerations), collect and map ECs and use restrictions.
4. Monitor effectiveness and protectiveness of ECs/ICs over time – Which organization oversees facilities in LTS phase (pre-cleanup complete/post cleanup complete with controls), inspections, use of mapping for inspections, other oversight tools, (ex. sending annual letter to facilities requiring certification that ICs ECs are in place and operating.)
5. Adjustment Needed – If ICs/ECs are NOT functioning properly, who determines what adjustment are needed, who implements adjustments, who verifies changes?
6. Enforcement - What Agency is responsible for enforcement, how does that work, what is the process, what are the tools used, who are the players, how is it paid for?
7. End of LTS period – What is criteria for ending LTS, (monitoring, ICS, maintenance of ECs), are there environmental performance standards? Who makes that determination.
8. Public Notification, availability of Use Restrictions – Mapping and other easily available info on contaminated media and use restrictions.
9. Technical Outreach and Training – Tools, information and training of RCRA Corrective Action Program Staff
10. Program Measurement / Tracking – What is the universe of facilities in LTS? How to manage records / activities for these facilities? Does EPA want to have a CA LTS measure? If so, who what when where why.

## **Long-Term Stewardship Process Considerations**

To ensure RCRA Corrective Action properties remain protective over time and risks to human health and the environment are effectively controlled.



Attachment 3: Wrap-up/closing slides developed during the conference

## 4 Areas for Concrete Future Collaboration

1. Definition of LTS and flow diagram of LTS process components
2. Collaborative Work Space
3. Continued sharing of expertise
4. Ongoing dialog and future meetings

## LTS Program – 4 Work Areas

1. Agree upon a definition of RCRA Corrective Action LTS. Construct a **flow diagram** illustrating the components of the LTS process (build on “LTS Process Considerations” diagram).
2. Develop a **collaborative work space** for EPA and States to share and access LTS tools, expertise, and resources
  - Use flow diagram and “live” links to present resources

## LTS Program – 4 Work Areas

3. Facilitate **webinars and information exchanges** on key topics, including:
  - Assessment and monitoring
  - Databases, mapping and digital tools
  - Communication and information dissemination strategies and tools
  - Others
4. **Ongoing dialogue**, including future meetings.  
Topics identified:
  - Legal and administrative challenges/opportunities: permits, orders, and other authorities
  - Resources and funding for LTS Programs