

State Observations Made While Testing the Institutional Controls Costing Tool

Arkansas

State LTS Approach

The Hazardous Waste and the Solid Waste Divisions of the Arkansas Department of Environmental Quality (ADEQ) are responsible for LTS of sites. Within the Hazardous Waste Division, the Brownfields Branch is responsible for all LTS activities associated with completed Brownfields sites and the Technical Branch is responsible for all LTS activities associated with RCRA Corrective Action, National Priority List, State Priority List, and Elective Sites Cleanup Program sites.

A total of five sites requiring LTS activities exist within the Brownfields Program. The Brownfields LTS activities have been recorded in a Brownfields Public Record database and are tracked by the Brownfields Program Coordinator. Approximately 15 LTS sites for which the Technical Branch is responsible either currently or are anticipated to exist by 2017. These sites are tracked by the Technical Branch Manager and two Supervisors.

The Solid Waste Division has identified the need to develop a LTS program to monitor approximately 150 closed sanitary landfills. To date, no LTS activities have been undertaken other than compiling a list of the sites. Unlike the Hazardous Waste Division LTS sites, the Solid Waste Division LTS sites are not already addressed via previously established programs or are otherwise integrated into ongoing programs. More elements of the costing tool may therefore be of greater utility for the Solid Waste Division LTS program than for the Hazardous Waste Division LTS sites.

The Regulated Storage Tank Division's risk-based corrective action requirements generally preclude the use of Institutional Controls (ICs); however, one LTS site exists. This site is tracked by a Project Manager and additional LTS sites are not anticipated.

The Hazardous Waste Division's Program Branch was awarded a grant to implement the IC data flow to the EPA via the Exchange Network. Making use of the national IC data standards (Standard No. EX000015.1), the ADEQ tasked a contractor to design and build an application to capture and track IC information through a database system (IC System). Engineering controls, such as monitoring wells, treatment systems, fences, etc... are associated with the IC record along with administrative measures and legal instruments, such as deed restrictions.

The IC System has not yet been populated. Upon completion, however, the IC System will serve as a comprehensive Hazardous Waste Division LTS inventory. The IC System was not designed to track activities such as inspections, but could be modified in the future to do so.

With respect to LTS sites, program and project management within the Hazardous Waste Division is highly centralized. At this time, it is anticipated that the number of staff involved in developing and implementing a comprehensive LTS program will be limited to approximately four. The approach to be taken and the number of Solid Waste Division staff involved in creating an LTS program has not yet been determined.

Costing Tool Analysis

As the IC System application has already been developed for the Hazardous Waste Division using a one-time grant, it is likely that the majority of the Information Management costs have already been expended. The general feedback from Hazardous Waste Division personnel was that it is difficult to disengage specific Planning, Monitoring and Inspection, and Enforcement LTS Program Development activities and costs from other previously established and/or ongoing programmatic activities.

The Program Development section of the costing tool may have considerable utility for Solid Waste personnel as they start their own LTS program by providing examples of the many elements to be considered.

- 1) Implementation: The general feedback was that it is difficult to disengage specific Planning, Monitoring and Inspection, and Enforcement LTS Implementation activities and costs from other previously established and/or ongoing programmatic activities. The costing tool provides all of the Information Management elements to be considered as the IC System is populated.

The Implementation section of the costing tool may prove useful for Solid Waste personnel as they start their LTS program by providing examples of the many elements to be considered.

- 2) Site Specific: Given existing management structure and work flow, the Site Specific components of the costing tool are of the greatest utility for the Hazardous Waste Division. All of the necessary considerations, including “hidden” costs, appear to be captured.

The Site Specific section of the costing tool may prove useful for Solid Waste personnel as they start their LTS program by providing examples of the many elements to be considered.

- 3) General Comments: LTS sites within the Hazardous Waste Division are generally not organized in a manner that allows Program Development and Implementation costs to be captured. Moreover, each program (e.g., Brownfields, Elective Sites, Superfund, etc.) has different funding sources and LTS activity requirements. However, the Site Specific costs can be much more easily identified and tracked. For this reason, the Site Specific

section of the costing tool will be the most useful. The costing tool will enable a more comprehensive LTS approach to be developed and a more accurate forecast of funding requirements to be made.

The Program Development and Implementation sections of the costing tool should be reviewed by Hazardous Waste Division Managers if the efficacy of a LTS program conducted on a site specific basis is evaluated in the future. Additionally, Managers should review the Implementation section of the costing tool as the IC System is populated to determine if modifications are necessary.

The Solid Waste Division will be able to effectively use all three sections of the costing tool to develop an LTS program.

Delaware

The Delaware Department of Natural Resources and Environmental Control (DNREC) Site Investigation and Restoration Branch (SIRS) has been working to streamline or centralize all LTS sites. The site Project Manager has the primary responsibility of guiding their sites through the remediation process, beginning with the signed Brownfield Development Agreement (BDA) or Voluntary Cleanup Program Agreement (VCP). Upon successful completion of site remediation, approval of the Operations and Maintenance (O&M) Plan, and recording of the Environmental Covenant (if required), the site is placed on the active LTS inventory. It then becomes the primary responsibility of the LTS group to conduct annual inspections on behalf of the Department and to update our Delaware Environmental Navigator Database (DEN). LTS site compliance or non-compliance is communicated with the site owner and Project Manager. Our current LTS group consists of a portion of a FTE along with a seasonal employee. The primary tasks include site file reviews, site inspections, follow-up letters to site owners, and updating of DEN. Delaware's current LTS inventory includes approximately 175 remediated sites. DNREC has a separate Tank Management Branch (TMB) with the responsibility for all tank-related sites.

Costing Tool Analysis:

- 1) Program Development and Implementation costs were estimated. Site Specific costs were calculated for a "typical" LTS site with minimal requirements, requiring little follow-up. A basic annual file review, site inspection, follow-up letter and database update was estimated at approximately \$1,000 per site per year. LTS sites with any non-compliance issues will have additional costs for follow-up investigation and resolution attempts.
- 2) As a general observation, the majority of costs for the Community Engagement Portion of

the costing tool have been handled prior to a site being placed on the LTS inventory. Once a site is placed in the LTS inventory, very little Community Engagement charges are entered.

3) The LTS Costing Tool is able to provide valuable costing detail in that it can act as a guide to an individual State's budgeting processes to effectively arrive at usable cost values for LTS sites as opposed to broader estimated values.

Idaho

The Idaho Department of Environmental Quality (IDEQ) remediation responsibilities reside within the Waste and Remediation Division. Within the Division are separate sections: Hazardous Waste (RCRA), Mine Waste (Bunker Hill Superfund and PA program), Remediation (Solid Waste, Brownfields, VCP, Federal Facilities, and LUST), and Site Remediation (INL and non-Bunker Hill Superfund Cleanups). LTS activities take place at sites remediated under all these programs and sections. LTS activities for a given site are typically managed by project managers within individual programs. Individual programs dictate which LTS elements and requirements are implemented at their sites. Consequently not all elements may be implemented within a given program and requirements vary considerably from program to program. No "typical" set of requirements exists.

No formal evaluation of the scope or elements of a comprehensive LTS program has been undertaken in the Agency or Division to date. Development of a LTS program has only been considered in the Remediation section. The two areas of LTS program development which have been given the greatest attention are in data management and adoption of the model Uniform Environmental Covenants (UECA) Act. Multiple data management systems have been developed and discarded over time with the goal of maintaining an inventory of contaminated sites, assisting in the management of sites, and providing a repository of site documents. Large amounts of time and money have been invested but not quantified. The LTS portion of these systems is also difficult to quantify. The most current system is on hold as an agency-wide document management system is implemented.

The LTS costing tool was not completed because of 1) the lack of coordinated activity which has been devoted at the Division level to development of a comprehensive LTS program 2) the dispersed nature (both time and source) of funding which have been devoted to those activities which are most closely associated with LTS (primarily data management) and 3) the lack of consistent LTS requirements between programs. Most funding for LTS activities has come from Federal grants such as the Brownfield response program or Superfund Core and has been done within the scope of other grant-specified primary activities such as building the capacity of the response program.

The tool has been valuable, however, for identifying the broad range of tasks and costs (both explicit and hidden) which an agency should consider when developing a comprehensive program. The most valuable data may be obtained from those few States which have systematically and comprehensively considered the development of LTS functions within their agencies.

Michigan

The Michigan Department of Environmental Quality (MDEQ) has currently only developed the information management portion of the LTS program anticipated by the costing tool that has been developed. The MDEQ's information management system consists of a geographical information system (GIS) database to store information on all known ICs put in place pursuant to the State cleanup and leaking underground storage tanks programs. The properties affected by each IC are mapped and will be made available to the public via the internet. The public will be able to search the GIS database using an interactive State map and be able to pull up information regarding each IC, including the recorded instrument. The database is still being populated with historic IC information and will be made available to the public after quality control checks are complete.

Although the public availability of the MDEQ's information management system will eventually fulfill some aspects of the community engagement portion of an LTS program, it was not initially intended to include the monitoring and inspection, or enforcement, aspects.

Review of the LTS costing tool is useful to identify where a State's current system(s) falls short of a fully functional and effective LTS program. The LTS costing tool can be effective when an entity decides to develop the other components of a LTS program and the costs associated with them. An observation that was made while reviewing the costing tool was that there is a component of Michigan's cleanup program (due care) that overlaps with significant portions of an effective LTS program. Simply stated, due care is defined in Michigan as a property owner's obligation to take actions to mitigate unacceptable exposure to hazardous substances at their property. This includes complying with any land or resource use restrictions employed at the property.

Depending on available resources and/or programmatic restraints, a determination can be made as to whether to seek and allocate resources to develop a complete LTS program or focus available resources on other portions of the cleanup program that are already in place and determine if they meet the needs of all or a portion of an effective LTS program.

Mississippi

Many Voluntary Cleanup Programs (VCP) or Brownfield Programs have a set fee for joining VCPs and LTS activities are typically captured in that fee (e.g., \$2000 fee, no annual fee). The LTS tool is superb at evaluating whether a flat fee is sufficient to cover the wide range of costs associated with LTS. If Mississippi charges a flat site fee of \$2000 with no annual fee, then with a Grand Total of \$2576, the State's program would be losing \$576 per site. Using the Site Specific tab of the tool, the LTS Tool is extremely helpful at evaluating fixed vs. variable costs. A number of the planning activities are fixed (only happen once for a particular site, e.g., placing a covenant on the property) while monitoring and inspections are dependent upon the frequency (i.e., variable costs). Going back to the flat fee observation, there are \$920 of monitoring and inspection costs that occur each period (semi-annual, annual, 5-year). To address this for the Mississippi site-specific example, the State may decide to charge a flat fee of \$1700 up front with a \$1000/annual "permit" fee for LTS activities to cover the costs over time.

The LTS tool assists the State program in evaluating "Life Cycle Costs" and forces programs to develop assumptions regarding the variable costs and activities. For instance, it may be that the State develops a policy that requires annual monitoring/inspections for the first five years and then a five-year review for the next 25 years to develop a net present value of the variable costs. This could be rolled into a flat fee for the site.

Missouri

State LTS Approach

The Missouri Department of Natural Resources (Department) contracted in February 2011 with a company to develop a Long-Term Stewardship (LTS) Cost Estimator. The Department wished to identify and estimate the site-specific costs associated with providing LTS and estimate program costs to support development of a LTS program.

Prior to developing their LTS Cost Estimator, the contractor reviewed similar or related efforts at LTS cost estimating, including a draft of the State Costing Tool developed by the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) focus group. The contractor found the FGs State Costing Tool to be "very good and very informative" and adopted it as their primary resource.

Costing Tool Analysis

A modified Costing Tool was developed utilizing the following cost elements and categories developed by the ASTSWMO LTS Focus Group:

- Program Development costs (one-time LTS program start-up costs),
- Program Implementation costs (non-site-specific LTS program management costs), and
- Site-Specific costs (discrete LTS costs related to specific sites not included in Program Development of Implementation costs).

The contractor reviewed the FG draft costing tool and modified their approach for tailored use by MDNR. Drawing from the ASTSWMO LTS Cost Elements, they compared prior and planned MDNR LTS activities against the ASTSWMO LTS cost elements. Similarly, they reviewed LTS cost elements identified that other States used in their spreadsheet-based cost estimating tool for LTS monitoring and inspections. The contractor also evaluated the Arizona Rulemaking entitled “Declaration of Environmental Use Restriction Fee” and its preamble, which enumerates 11 LTS life cycle cost items imposed on the State, which it describes as State agency “DEUR---Related Activities.” Based on these comparisons, the contractor recommended that Missouri modify some of the ASTSWMO FG developed LTS cost elements, but maintaining the ASTSWMO FG suggested Program Development, Program Implementation, and Site Specific paradigm, re-labeling the categories LTS Start Up, Program Management, and Site Specific LTS Fee Calculator, respectively.

While the LTS Cost Estimator developed for Missouri is modeled on the ASTSWMO Focus Group’s prototype, it is not identical. The cost elements and the categories of costs are similar and accept the theoretical basis developed by the ASTSWMO Focus Group. Missouri will continue to evaluate the usefulness and validity of these instruments.

Missouri has used their cost estimator to evaluate the average LTS life cycle cost associated with Brownfields Voluntary Cleanup Program (BVCP) sites, resulting in a recommendation to increase the one-time LTS monitoring fee for BVCP participants completing risk-based cleanups in order better address Department costs. The LTS Cost Estimator will be further used in the development of LTS life cycle costs for sites in the Department’s other cleanup programs and in development of the budget and staffing plan for Missouri’s new LTS program.