



Lean: Excellence in Government



Improving Environmental Agency Processes with Lean and Six Sigma

Over the past few years EPA and state environmental agencies have experimented with an exciting new approach to improve government processes. More than 20 States and many federal agencies are using Lean and Six Sigma to achieve dramatic results. EPA, in partnership with ECOS, is working to expand the use of this continuous improvement approach.

Lean in Government

- Using Lean, environmental agencies have improved quality, cost effectiveness, service delivery and responsiveness to the public, without compromising environmental protection.
- Lean is a collection of principles, methods, and tools that improve the speed and efficiency of any process by eliminating waste.
- Although Lean originated in manufacturing operations, the tools have been successfully applied in organizations across all sectors, including the government.
- Lean methods are highly adaptable and could be used in a myriad of processes ranging from rulemaking to processing of grants and contracts.

How Lean Achieves Results

Lean techniques such as value stream mapping and kaizen rapid improvement events identify and eliminate unnecessary and non-value added process steps and activities that have built up over time. Lean efforts are not just about fixing broken processes. State agencies have found that these methods enable them to understand how their processes work on the ground and to build a culture of continuous improvement.

By getting process activities and procedures to function smoothly and consistently, agencies free staff time to focus on higher value activities more directly linked to environmental protection. While successfully implementing Lean requires hard work and commitment, the results can be impressive.

Benefits of Using Lean

- ✓ Achieves environmental results
- ✓ Ensures better customer service
- ✓ Reduces process complexity
- ✓ Enhances process speed
- ✓ Produces quality products and services
- ✓ Improves staff morale

Results

- **EPA's Office of Water, EPA Region 7 and 4 States** (Iowa, Kansas, Missouri and Nebraska) are using Lean to significantly improve water quality standard setting and NPDES processes, achieving dramatic reductions in review steps.
- **Delaware Department of Natural Resources and Environmental Control Methods (DNREC)** used value stream mapping to improve air permitting, by developing new permit applications, installing visual permit tracking boards, and implementing a "First In, First Out" system. As a result, DNREC has reduced their permitting backlog from 199 to 59 minor permits in three months, and to 25 in one year.
- **Iowa Department of Natural Resources (IA DNR)** has conducted over 30 Lean kaizen rapid improvement events. Results include decreasing lead times on underground storage tank correction action decisions from 38 months to 3 months and reducing the average time to issue standard air construction permits from 62 to 6 days.

For More Information:

www.epa.gov/lean/admin.htm

www.ecos.org/section/projects/?id=2292

Key Lean Tools

- **Value Stream Mapping (VSM)** – Value stream mapping refers to the activity of developing a high-level visual representation of the process flow involved in delivering a product or service (a “value stream”) to customers. VSM events focus on identifying sources of non-value added activity (waste) and prioritizing future improvement activities.
- **Kaizen Events** – Kaizen means “to change for the good of *all*.” Kaizen activity is often focused in rapid process improvement events (kaizen events) that bring together a cross-functional team for 2-5 days to study a specific process and immediately implement process changes.
- **Six Sigma** – Lean is often combined with Six Sigma, a process improvement methodology that uses statistical tools to improve quality, reduce defects, and eliminate variation.

What Lean is Not

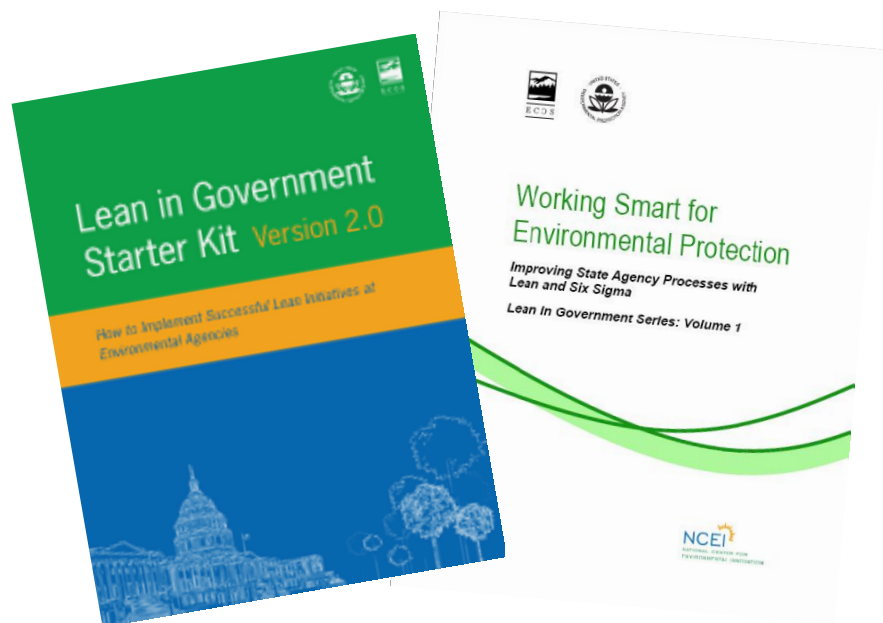
- Lean is *not* about compromising environmental protection, loosening environmental regulations, or foregoing an agency’s commitment to environmental protection. Lean seeks to correct inefficiencies in administrative processes and workflow, enhancing an agency’s ability to protect the environment.
- Lean is *not* about cutting jobs. Lean retains the current staff, but may rearrange or assign new duties to those staff. It is *not* a test for job performance; rather it seeks to improve the entire agency’s performance. Lean often improves staff morale, as employees have a hand in designing work processes that enable success.
- Lean is *not* just another “flavor of the month.” Lean methods have been proven effective many times over and in a multitude of settings making it different from past management trends, such as TQM. Unlike past trends that focused on quality only, Lean addresses quality, cost and delivery. Lean’s focus on rapid implementation brings real improvement and compelling results fast, sparking momentum for further improvement.



Types of Administrative Waste

Waste	Example
Inventory	Backlog of Work, Excess Materials/Information
Defects	Data Errors, Missing Info
Overproduction	Unneeded Reports, Doing Work Not Requested
Complexity	Unnecessary Process Steps
Waiting	Approval Cycles
Excess Motion	Trips to Remote Printer
Moving Items	Report Routing

Lean in Government Tools



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