



U.S. ENVIRONMENTAL PROTECTION AGENCY

OFFICE OF INSPECTOR GENERAL

Spending Taxpayer Dollars

EPA Needs to Institutionalize Its “Lean” Program to Reap Cost and Time Benefits

Report No. 17-P-0346

July 31, 2017

Lean in Action at the EPA



Report Contributors:

Michael D. Davis
Heather Layne
Debra Coffel
Cara Lindsey

Abbreviations

CPI	Continuous Process Improvement
EPA	U.S. Environmental Protection Agency
FY	Fiscal Year
LAB	Lean Action Board
NPDES	National Pollutant Discharge Elimination System
NPM	National Program Manager
OIG	Office of Inspector General
OP	Office of Policy
OSEM	Office of Strategic Environmental Management

Cover photo: EPA Region 10 staff during a Kaizen Lean event. According to the EPA’s “Lean Thinking and Methods—Kaizen” webpage, a Kaizen event involves employees of all levels working together to address a problem or improve a process. (EPA photo)

Are you aware of fraud, waste or abuse in an EPA program?

EPA Inspector General Hotline

1200 Pennsylvania Avenue, NW (2431T)
Washington, DC 20460
(888) 546-8740
(202) 566-2599 (fax)
OIG_Hotline@epa.gov

Learn more about our [OIG Hotline](#).

EPA Office of Inspector General

1200 Pennsylvania Avenue, NW (2410T)
Washington, DC 20460
(202) 566-2391
www.epa.gov/oig

Subscribe to our [Email Updates](#)
Follow us on Twitter [@EPAoig](#)
Send us your [Project Suggestions](#)



At a Glance

Why We Did This Review

We conducted this audit to determine whether the U.S. Environmental Protection Agency's (EPA's) current use of Lean methodologies operates as intended by eliminating waste and achieving savings. Lean is a set of principles and methods used to help organizations identify and eliminate waste in their processes.

In a 2014 memorandum, the EPA introduced its Lean Government Initiative "as a way to maximize the agency's ability to effectively implement its mission." The memorandum referred to "expectations for taking the EPA's Lean work to the next level" and announced the launch of an agencywide GreenSpark event designed to engage all employees in the Lean effort. To meet these objectives, the EPA dedicated significant resources—including contract and staff support—to apply Lean methodologies and educate the workforce about Lean.

This report addresses the following EPA goal or cross-agency strategy:

- *Embracing EPA as a high-performing organization.*

Send all inquiries to our public affairs office at (202) 566-2391 or visit www.epa.gov/oig.

Listing of [OIG reports](#).

EPA Needs to Institutionalize Its "Lean" Program to Reap Cost and Time Benefits

What We Found

We found that the EPA could not fully demonstrate that its Lean Government Initiative is operating as intended to eliminate waste and achieve savings. We found the following opportunities for the EPA to strengthen its Lean Government Initiative:

Why "Lean" the EPA?

Tight and dwindling resources necessitate more efficient use of the EPA's multibillion dollar budget.

- Selection of Lean projects to avoid overlap.
- Improvements in monitoring Lean efforts to gauge progress.
- Improvements in reporting Lean projects, including cost metrics.
- Identification and tracking of Lean projects.
- Development of a cohesive strategy for leading, implementing and monitoring the Lean initiative.
- Implementation of consistent and standard Lean training.

The federal government has issued guidance on how federal agencies can optimize performance, improve efficiencies, and identify ways to eliminate wasteful practices and operate more efficiently. In addition, the EPA has issued memorandums on how to use Lean specifically within the agency. However, the EPA's internal controls for implementing Lean in accordance with this guidance and these memorandums need improvement, such as identifying and tracking Lean projects to gauge progress and costs, as well as leading and monitoring the Lean initiative agencywide. Because these controls have not been fully implemented, Lean has not been institutionalized at the EPA. These internal controls must be improved before the agency can fully maximize the application of Lean practices and ensure that it is not wasting resources by failing to create efficiencies.

Recommendations

We recommend that the Associate Administrator for Policy implement a strategy for institutionalizing the Lean Government Initiative within the agency. In addition, the Office of Policy (OP) should develop policies that specify how to plan, design, oversee and implement Lean practices. OP should also establish agencywide controls for monitoring, tracking and measuring the progress of Lean projects, as well as for vetting and collaborating on Lean projects to avoid overlap. Lastly, OP should develop standard Lean training for EPA staff. The EPA concurred with all of the recommendations and initiated corrective actions.

Noteworthy Achievements

OP has launched a new automated Lean tracking system—called LeanTrack—which OP said "will simplify information submissions, summarize work, and provide an understanding of project activity across EPA and in the states."



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

THE INSPECTOR GENERAL

July 31, 2017

MEMORANDUM

SUBJECT: EPA Needs to Institutionalize Its “Lean” Program to Reap Cost and Time Benefits
Report No. 17-P-0346

FROM: Arthur A. Elkins Jr.

A handwritten signature in black ink, appearing to read "Arthur A. Elkins Jr.", is written over the printed name.

TO: Samantha Dravis, Associate Administrator
Office of Policy

This is our report on the subject audit conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). The project number for this audit was OA-FY16-0107. This report contains findings that describe the problems the OIG has identified and corrective actions the OIG recommends. This report represents the opinion of the OIG and does not necessarily represent the final EPA position. Final determinations on matters in this report will be made by EPA managers in accordance with established audit resolution procedures.

Action Required

The agency provided corrective actions for addressing the recommendations with milestone dates. Therefore, a response to the final report is not required. Should you choose to provide a final response, we will post your response on the OIG’s public website, along with our memorandum commenting on your response. Your response should be provided as an Adobe PDF file that complies with the accessibility requirements of Section 508 of the Rehabilitation Act of 1973, as amended. The final response should not contain data that you do not want to be released to the public; if your response contains such data, you should identify the data for redaction or removal along with corresponding justification.

We will post this report to our website at www.epa.gov/oig.

Table of Contents

Chapters

1	Introduction	1
	Purpose	1
	Background.....	1
	Implementation of EPA’s Lean Initiative	2
	Responsible EPA Offices	4
	Scope and Methodology	5
	Prior Report	7
	Noteworthy Achievements	8
2	Improvements Needed to EPA’s Lean Government Initiative	9
	Federal Initiatives to Cut Waste	9
	Direction for EPA’s Lean Initiative	10
	Overlap in Agency Lean Projects	11
	Lean Not Institutionalized at EPA.....	13
	Insufficient Monitoring, Tracking and Reporting of Lean Projects.....	15
	Limited Oversight and Restricted Authority to Implement Lean	18
	Lean Training Not Standardized.....	20
	Opportunities Exist to Strengthen EPA’s Streamlining Efforts	20
	Recent Agency Actions Prompted by OIG Work	21
	Recommendations	22
	Agency Response and OIG Evaluation	22
	Status of Recommendations and Potential Monetary Benefits	24

Appendices

A	Agency Response to Draft Report.....	25
B	Distribution	29

Chapter 1

Introduction

Purpose

The Office of Inspector General (OIG) conducted an audit of the U.S. Environmental Protection Agency's (EPA's) Lean Government Initiative. The objective of this audit was to determine whether the EPA's current use of Lean methodologies operates as intended by eliminating waste and achieving savings.

Background

The EPA began learning from and supporting Lean efforts implemented by state governments and stakeholders as early as 2005. The regions and offices exposed to these efforts gained experience with Lean, which helped to facilitate the understanding and use of Lean methodologies at the EPA.

However, there was initially no central effort to manage, capitalize on and apply the lessons learned from these early Lean projects across the agency.

In a September 2014 memorandum issued by then Administrator Gina McCarthy, the EPA formally introduced its Lean Government Initiative and launched a GreenSpark event to identify processes where Lean could be applied. In September 2015, the EPA issued a supplemental memorandum outlining ways the agency could further advance Lean.

Why the Federal Government Uses Lean

The federal government has issued guidance on how federal agencies can optimize performance, improve efficiencies, and identify ways to eliminate wasteful practices and operate more efficiently. Per the EPA's "About Lean Government" webpage, Lean methodologies are "highly adaptable" and can be used in a variety of processes. A number of agencies, including the EPA, are using continuous process improvement methods like Lean to improve the quality, transparency and speed of their processes.

What Is Lean?

Lean is a set of principles and methods used to identify and eliminate waste in any process. Lean helps organizations improve the speed and quality of their processes by getting rid of unnecessary activity such as document errors, extra process steps and waiting time.

—EPA's "About Lean Government" webpage

Why EPA Uses Lean

According to the EPA’s “About Lean Government” webpage, the EPA recognizes that inefficiencies exist across the agency and that “Lean methods are applicable to a range of EPA service and administrative processes—from rulemaking to the processing of grants and contracts.” As a result, the EPA has dedicated significant resources—including contract and staff support—to apply Lean methodologies and educate the workforce about Lean.¹



Value stream mapping is often used in “leaning” (streamlining) a process. The EPA’s “Lean and Six Sigma Process Improvement Methods” webpage describes value stream mapping as “developing a visual picture of the flow of processes, from start to finish, involved in delivering a desired outcome, service or product, which could include multiple processes.” (EPA photo)

As of October 2016, agency staff have begun 196 projects using Lean methods to revamp processes, produce new capabilities and skill sets, and maximize the EPA’s ability to serve its stakeholders. According to the EPA’s Lean webpage, these Lean projects, which are also referred to as “Lean events,” have eliminated processing steps, thereby reducing process time and staff time. “The results,” according to the EPA’s “About Lean Government” webpage, are allowing staff to now “focus on higher value activities that are more directly linked to environmental protection.”

Implementation of EPA’s Lean Initiative

In a memorandum issued on September 3, 2014, the EPA introduced its Lean Government Initiative² “as a way to maximize the agency’s ability to effectively implement its mission.” The memorandum announced the agency’s “expectations for taking the EPA’s Lean work to the next level” and announced the launch of “an agencywide GreenSpark ideation event to engage all of our employees in identifying processes ripe for Lean.”



The EPA’s Lean Government Initiative logo.
(EPA Lean Government intranet site)

Also in the memorandum, then Administrator Gina McCarthy provided specific instructions to agency management, as detailed in Table 1.

¹ The agency’s *Lean Practices @ EPA* website provides more information regarding Lean and how the EPA is using Lean to improve agency performance.

² Although the agency has been using Lean methodologies and conducting Lean projects since 2009, the initiative was not officially supported until 2014 through the agency’s GreenSpark challenge.

Table 1: September 2014 Lean memorandum instructions to management

Management level	Instructions provided
Assistant and Regional Administrators	<ul style="list-style-type: none"> • Encourage your staff to participate in the agencywide GreenSpark ideation event. • Sign up for your staff to share a Lean success and associated results from your organization. • Identify Lean successes that could be replicated at the national or program level.
Assistant Administrators	<ul style="list-style-type: none"> • Send information on the three Lean projects you will deliver. • Encourage your managers and staff to participate in the Lean summit. • Select at least a quarter of your managers to receive Lean training at the Lean summit.
Regional Administrators	Consider developing your own Lean summit.

Source: Lean checklist from the September 3, 2014, memorandum.

In a subsequent memorandum issued on September 18, 2015, the EPA emphasized the need to focus its “efforts to facilitate and ensure implementation of the recommendations that emerged from the Lean events, encourage replication and continue to identify and Lean the EPA processes that need it most.” Three broad courses of action were outlined in this memorandum, as shown in Table 2.

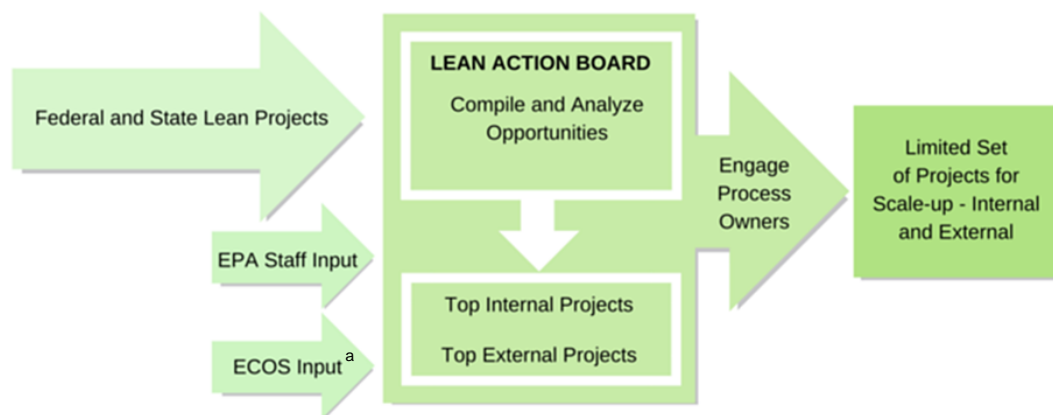
Table 2: September 2015 Lean memorandum focus areas

Focus area	Proposed tasks
Implementing ideas from your Lean events	<ul style="list-style-type: none"> • Follow up on the organization’s fiscal year (FY) 2015 Lean events by meeting with the participants from each event and the managers responsible for implementing the suggested changes. • Assess what progress has been made toward achieving the project-specific outcomes identified during the event—including what successes have already been achieved, what challenges or obstacles are being encountered, and what resources and support are needed to implement the plan. • Share with the Administrator what you learn from those discussions.
Replicating Lean successes	<p>A Lean Action Board (LAB) will be established to accomplish the following objectives:</p> <ul style="list-style-type: none"> • Identify the best replication and scale-up opportunities for the EPA, based on successful Lean implementation by the EPA and states. • Direct the agency’s Lean FYs 2016 and 2017 replication and scale-up resources toward these opportunities. • Gain and share insights into the strategies that best support a culture of Lean replication and scale up at the EPA.
New Lean projects	Identify at least one new priority Lean event for FY 2016.

Source: OIG summary of the September 18, 2015, memorandum.

As indicated in Table 2, a LAB was launched in January 2016 to help build on the successes from the Lean projects conducted by the agency since 2014. The EPA’s “Lean Action Board” website outlines how the LAB optimizes internal EPA operations and programmatic areas shared with states. The LAB also evaluates and selects a limited number of Lean projects that have produced results to be “transferred” or scaled up for use across the agency to better accomplish the EPA’s mission of protecting human health and the environment. The LAB examines both Lean projects done internally at the EPA and done in coordination with external stakeholders. The process for selecting Lean successes for transference is shown in Figure 1.

Figure 1: Process for selecting Lean successes for transference



Source: EPA’s *Lean Government* public website

^a ECOS: Environmental Council of States.

Responsible EPA Offices

The Office of Policy (OP), within the Office of the Administrator, is responsible for helping the EPA strategically reach its goals. According to the office’s Functional Statement, the following task is among OP’s major functions:

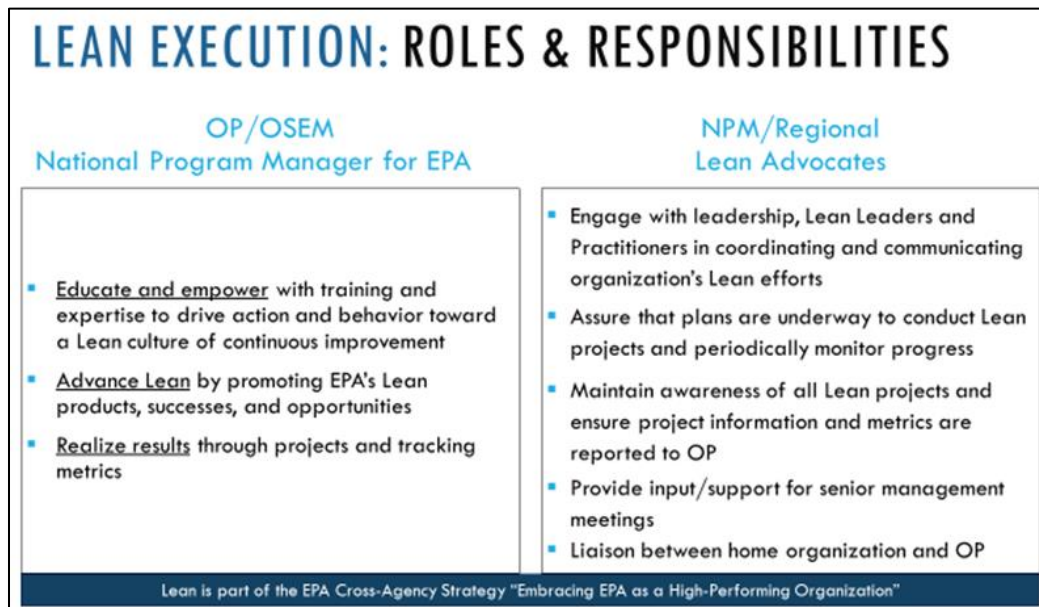
Provides strategic management practices to enhance Agency effectiveness through program analysis, program evaluation and the development and deployment of other management strategies that enhance productivity and improve the effectiveness of Agency programs and priorities.

Within OP, the Office of Strategic Environmental Management (OSEM) is the primary office responsible for executing Lean (Figure 2). The OP website summarizes OSEM’s responsibilities:

As the Agency’s National Program Manager [NPM] for Lean government, OSEM provides the Agency with Lean expert facilitators; builds the infrastructure for Lean activities across EPA (via training, coaching, guidance publications, traditional and

innovative intranet presence, and documenting results); develops and supports projects for replication and/or scale up; and explores approaches to engage EPA’s management to support their goals for continuous process improvement.

Figure 2: Roles and responsibilities for executing Lean at EPA



Source: OP Associate Administrator’s “Lean Government at EPA” presentation.

Scope and Methodology

We conducted this audit from February 24, 2016, to May 25, 2017, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

To answer our objective, we reviewed the following relevant laws, procedures and policy orders:

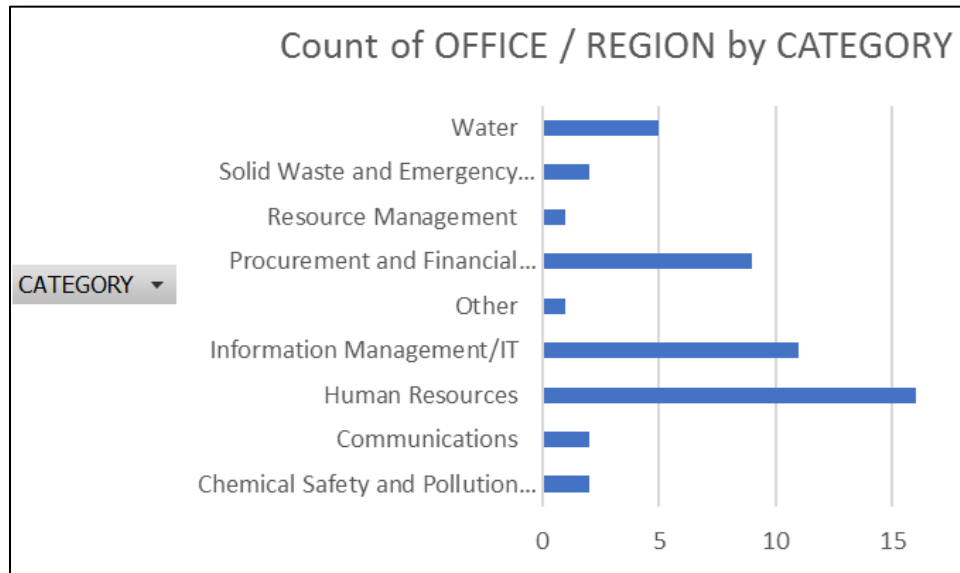
- Government Accountability Office, *Standards for Internal Control in the Federal Government*, September 2014.
- *Lean Government Metrics Guide*, July 2009.
- Government Performance and Results Act Modernization Act of 2010.
- Executive Order 13576, *Delivering an Efficient, Effective, and Accountable Government*, June 3, 2011.
- Office of Management and Budget M-11-31, *Delivering an Efficient, Effective, and Accountable Government*, August 17, 2011.

- EPA Memorandum, *Advancing Lean Work at the U.S. Environmental Protection Agency*, September 3, 2014.
- *Lean Continuous Process Improvement Training Strategy and Capacity Building Efforts at EPA*, July 1, 2015.
- EPA Memorandum, *Leaning into Change*, September 18, 2015.
- EPA Policy Statement, *Applying Lean Practices to Modernize the Business of Environmental Protection at the EPA*, June 21, 2016.
- Office of Management and Budget Circular No. A-123, *Management's Responsibility for Enterprise Risk Management and Internal Control*, July 15, 2016.

We reviewed the agency's current use of Lean methods to determine whether the program is improving the quality, transparency and speed of Lean projects by performing the following actions:

- Interviewing staff in OP to obtain an understanding of the EPA's Lean Government Initiative and the internal controls in place.
- Identifying and gathering general information on the universe of Lean projects as of March 2016 to obtain an understanding of the following characteristics:
 - Types of projects.
 - Categories of projects.
 - Participating offices/regions.
 - Completed projects.
 - Reported savings/efficiencies.
- Sorting the projects by category and determining which category had the highest number of projects with similarities (Table 3). We identified 16 projects related to human resources processes. We conducted a detailed review of 12 of these human resources projects to determine if there were any similarities or overlapping objectives and processes.
- Determining project effectiveness by judgmentally selecting for further review six additional Lean projects in various stages of implementation.
- Interviewing project teams involved to determine the status of implementation.

Table 3: Project count by category



Source: OIG analysis of OP data.

Prior Report

In EPA OIG Report No. [11-P-0315](#), *Agency-Wide Application of Region 7 NPDES Program Process Improvements Could Increase EPA Efficiency*, issued July 6, 2011, the OIG published the following findings:

- (1) Although Region 7 National Pollutant Discharge Elimination System (NPDES) program Kaizen³ event participants continued to follow up on the commitments and action items identified, no single authority was responsible for tracking the process improvement outcomes.
- (2) The EPA did not have a process to develop and track quantifiable results and outcomes from the Kaizen event.
- (3) The EPA encountered barriers involving scope, performance measures, implementation and accountability when planning the Kaizen event.

The report included three recommendations to identify process improvements from the Region 7 NPDES Kaizen event that can be transferred agencywide and three recommendations to improve the nationwide management of the EPA's Lean Government Initiative. Corrective actions have been completed on all recommendations.

³ Per the EPA's "Lean and Six Sigma Process Improvement Methods" webpage, "Kaizen activity often involves rapid improvement events (sometimes called a kaizen blitz), which bring together a cross-functional team for two to five days to study a process and begin the implementation of process changes."

Noteworthy Achievements

The EPA has produced tangible improvements in how it operationalizes and tracks Lean methodologies and projects since the publication of OIG Report No. [11-P-0315](#), *Agency-Wide Application of Region 7 NPDES Program Process Improvements Could Increase EPA Efficiency*. To facilitate a culture of Lean thinking throughout the EPA, OP has continued to build and organize a team of Lean stakeholders that draws from across the agency's professional ranks:

- Lean Advocate's group, which is a nationwide team of EPA staff who assist their organizations with the deployment of Lean and who serve as the points of contact for the NPM of the EPA's Lean Government Initiative.
- Lean Community of Practice, which is a staff-level network that includes Lean leaders and other practitioners of Lean at the EPA.
- LAB, which comprises senior executive service members who oversee and guide project selection and transference opportunities.
- Project support teams, which facilitate and coach Lean events, when necessary.

OP staff have also sought to expand institutional knowledge and buy-in of Lean by increasing staff access to Lean metrics. OP now posts project data on the agency's Lean intranet site and has launched an automated project data reporting system, called LeanTrack. This new system, which went live in March 2017, aids in project data reporting by standardizing the data collection process. LeanTrack also allows Lean project teams to view the data for any project in the database, which may help them to understand the possible cost and time benefits of each project. According to OP, this system:

... will simplify information submissions, summarize work, and provide an understanding of project activity across EPA and in the states, thereby greatly enhancing transference opportunities.



Former EPA Administrator Gina McCarthy is photographed with the EPA's Lean Advocates during a Lean Advocate's Symposium held in August 2016. (EPA photo)

Chapter 2

Improvements Needed to EPA's Lean Government Initiative

While the EPA has made positive strides with its Lean program, we found that the agency could not fully demonstrate that its Lean Government Initiative is operating as intended to eliminate waste and achieve savings. We found the following opportunities for the EPA to strengthen its Lean Government Initiative:

- Selection of Lean projects to avoid overlap.
- Improvements in monitoring Lean efforts to gauge progress.
- Improvements in reporting Lean projects, including cost metrics.
- Identification and tracking of Lean projects.
- Development of a cohesive strategy for leading, implementing and monitoring the Lean initiative.
- Implementation of consistent and standard Lean training.

To comply with federal guidance to eliminate wasteful practices and operate more efficiently, former EPA Administrator Gina McCarthy advocated instituting Lean within the EPA. However, we found that internal controls for implementing Lean need improvement, such as identifying and tracking Lean projects to gauge progress and costs, as well as leading and monitoring the Lean initiative agencywide.

Because these controls are not fully implemented, Lean is not institutionalized at the EPA, which means the agency is not maximizing the application of Lean practices and may be wasting resources by failing to create efficiencies. The importance of the EPA's mission to protect human health and the environment—particularly when faced with tight resources and dwindling budgets—necessitates more efficient use of resources. The Lean Government Initiative remains a critical step for the EPA to operate more efficiently.

Federal Initiatives to Cut Waste

With the issuance of Executive Order 13576, *Delivering an Efficient, Effective, and Accountable Government*, President Obama initiated a campaign to “cut waste, streamline Government operations, and reinforce the performance and management reform gains ... achieved.” As a part of this campaign, the President charged the government's Chief Financial Officers with achieving cost savings.

The Government Performance and Results Act Modernization Act of 2010 focuses on performance and improving efficiencies in federal agencies, while the Office of Management and Budget's M-11-31, *Delivering an Efficient, Effective,*

and *Accountable Government*, provides additional guidance on the act and assists agencies in refining performance management guidance.

Direction for EPA's Lean Initiative

EPA Lean Memorandums

The September 2014 memorandum, *Advancing Lean Work at the U.S. Environmental Protection Agency*, announced that the agency would use Lean methodologies to effectively implement its mission and asked OP, which

serves as the NPM for Lean, “to ensure ready access to the suite of training, coaching, facilitation and other needed expertise.”



Watch a video featuring former Administrator Gina McCarthy, Regions 3, 7, and 10, and industry partners who have implemented lean process improvement events

(EPA Lean Government intranet site video)

The September 2015 memorandum, *Leaning into Change*, proposed a course of action and instructions for advancing Lean in the future. The memorandum instructed staff to take “efforts to facilitate and ensure implementation of the recommendations that emerged from the Lean events, encourage replication, and continue to identify and lean the EPA processes that need it most.” This memorandum also directed OP to assess the successes and challenges of 38 priority Lean projects and to develop an action plan that further supports “implementing the great ideas and work plans from

FY 2015 events.” The memorandum was addressed to the General Counsel, Assistant Administrators, the Inspector General, the Chief Financial Officer, the Chief of Staff, Associate Administrators and Regional Administrators, with instructions for implementing project recommendations, replicating project successes, and identifying projects for FY 2016.

EPA Lean Policy Statement and Guidance

On June 21, 2016, the EPA issued a policy statement titled *Applying Lean Practices to Modernize the Business of Environmental Protection at the EPA*, which was designed to “maximize the application of Lean practices and [business process improvement] approaches, supporting the EPA’s streamlining, reform, and integration efforts across the agency.” In this policy statement, the LAB is charged with providing “oversight and guidance, utilizing evidence from Lean practices to monitor the success of this policy at the EPA.”

Published in July 2009, the EPA’s *Lean Government Metrics Guide* is a resource to help staff “understand and select metrics to support their implementation of Lean.” Table 2 of the guide specifically outlines cost as a process metric, including the following dollar savings from Lean projects:

- Dollar value of full-time equivalent savings, such as from staff attrition and eliminated need-to-hire positions.
- Reductions in contractor costs (after subtracting Lean facilitator costs).
- Other office cost savings, such as energy/utility costs and the consolidation of office space.

Overlap in Agency Lean Projects

There is some overlap in the selection of the EPA’s Lean projects nationwide. In our review of 12 human resources projects, we noted the following overlapping objectives and processes:

- Three involved provisioning (streamlining the new employee equipment and information technology process).
- Three involved in-processing (streamlining the new employee and/or participant process).
- Two involved exit processing (streamlining the employee exit process).

Table 4 illustrates the eight projects with overlapping objectives and processes. Furthermore, we noted coordination or sharing of information between offices in only three of those eight projects, as indicated in the “Coordination with other offices?” column in Table 4.

As shown in Table 4, we noted the following specific similarities in these eight projects:

- Rows 1–3: Region 10, the Office of Environmental Information, and the Office of International and Tribal Affairs each completed a provisioning project. These projects entailed involvement by the human resources and information technology departments, where (1) users were given access or granted authorization to systems, applications and databases and (2) users were provided the hardware resources necessary for completing their duties, such as computers, phones and equipment.
- Rows 4–6: The Office of the Administrator, Office of Research and Development, and Office of Administration and Resources Management each conducted onboarding projects that streamlined the various workflow processes for in-processing a new employee and/or program participant.
- Rows 7–8: The Office of Administration and Resources Management and Region 5 both completed out-processing projects that streamlined and simplified the employee exit process.

Table 4: Lean project overlap

	Office/ region	Project focus	Project goal	Overlap	Coordination with other offices?
Provisioning projects:					
1	Region 10	New personnel	Reduce the time required to complete the User Management Request process for new employees and other new system users.	<ul style="list-style-type: none"> Provisioning Workstation setup (equipment) 	No
2	OEI	Agency employee onboarding/off-boarding process	Improve various facets of the employee onboarding process.	<ul style="list-style-type: none"> Provisioning (information, equipment, training, networking) 	Yes (with OARM)
3	OITA	Office employee onboarding	Streamline various facets of the employee onboarding process.	<ul style="list-style-type: none"> Provisioning (information, equipment, training, networking) 	Yes
In-processing projects:					
4	OA	Update personnel processes	Streamline the establishment of a new employee by improving various facets of the employee onboarding process.	<ul style="list-style-type: none"> In-processing Streamline establishment of new employee process 	No
5	ORD	ORISE recruitment process ^a	Streamline ORD's ORISE recruitment process by improving various facets of the onboarding program.	<ul style="list-style-type: none"> In-processing Streamline establishment of new participant process 	No
6	OARM	Agency onboarding/off-boarding process	Streamline the establishment of a new employee by improving various facets of the onboarding process.	<ul style="list-style-type: none"> In-processing Streamline establishment of new employee process 	Yes (with OEI)
Exit processing projects:					
7	Region 5	Employee exit process	Streamline, simplify and automate various facets of the employee exit process.	<ul style="list-style-type: none"> Out-processing Streamline employee exit process 	No
8	OARM	EPA RTP separation checkout process	Streamline the EPA RTP employee checkout process.	<ul style="list-style-type: none"> Out-processing Streamline employee exit process 	No

Source: OIG analysis of OP data.

^a OP's acting Associate Administrator stated, "ORISE onboarding process is demonstrably different from other human resource processes at EPA. For example, ORISE uses a third party, not USAJobs, to advertise for recruits, and ORISE program participants are not formal EPA employees. As such, streamlining the ORISE onboarding process required specific solutions."

- OA: Office of the Administrator
- OARM: Office of Administration and Resources Management
- OEI: Office of Environmental Information
- OITA: Office of International and Tribal Affairs
- ORD: Office of Research and Development
- ORISE: Oak Ridge Institute for Science and Education
- RTP: Research Triangle Park

Lean projects are determined and implemented primarily at the local level. Each office or region identifies and implements Lean projects based on what the office or region determines to be relevant. OP does not screen or vet projects to limit

overlap, nor does it coordinate efforts between offices with similar projects to maximize the application of Lean practices and business process improvement approaches. OSEM's Associate Director states that this decentralized approach is a way to encourage participation in the Lean Government Initiative:

[E]stablishing a 'governing entity' to vet Lean projects could be a disincentive to programs and offices considering a Lean project. Such an entity would be almost certain to establish additional bureaucracy and process related to the review and selection of Lean projects, which would have a chilling effect on proposals. Duplication of some aspects of a few Lean projects is a small price to pay for allowing programs and offices to select and implement their own projects, which is a highly effective way of gaining support for Lean.

As noted in the EPA's September 2014 Lean memorandum, however, each Lean project is a significant investment. In the September 2015 Lean memorandum, then EPA Administrator Gina McCarthy emphasized replicating Lean successes and established a LAB to perform the following functions:

- Identify the best replication and scale up opportunities for the EPA, based on successful Lean implementation by the EPA and states.
- Direct the agency's Lean FY 2016 and FY 2017 replication and scale up resources.
- Gain and share insights into the strategies that best support a culture of Lean replication and scale up at the EPA.

Furthermore, in its June 2016 policy statement on applying Lean practices, the EPA charged the LAB with providing oversight, issuing guidance, and utilizing evidence from Lean practices to monitor the success of the EPA's Lean policy.

Lean Not Institutionalized at EPA

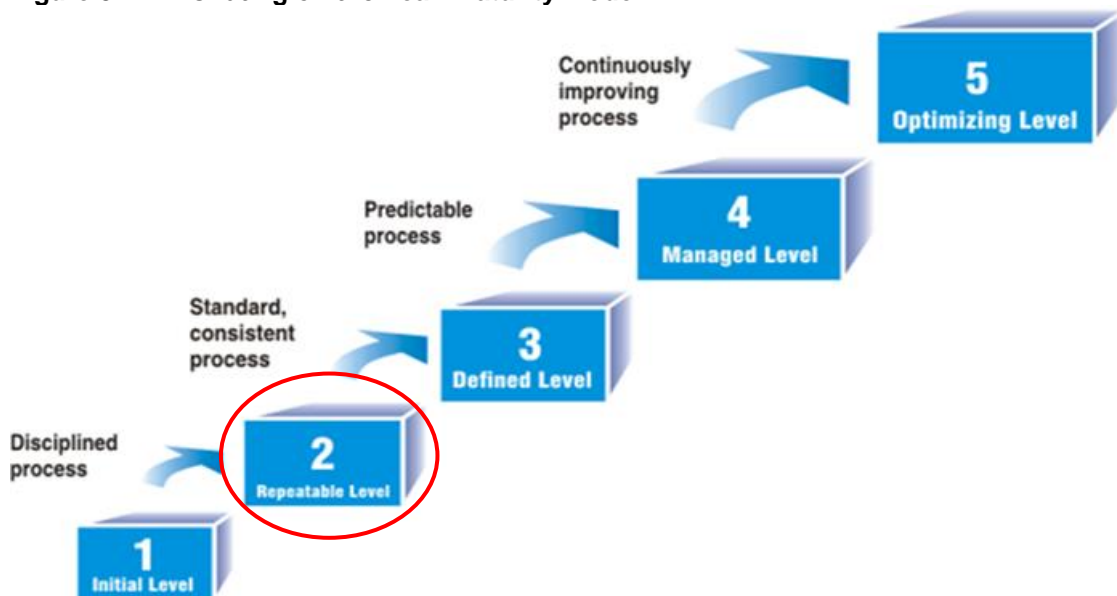
When the EPA's Lean Government Initiative was introduced in 2014, there was no policy or overarching plan for instituting or implementing the initiative. There were no mandates or integrated efforts to identify Lean efficiencies in the agency's strategic planning, programming, budget or execution processes. As a result, Lean was not institutionalized at the EPA.

OSEM's Associate Director informed the OIG that the only Lean policies initially available were the 2014 and 2015 memorandums. In June 2016, after the start of our audit, the agency issued a policy statement on applying Lean practices agencywide. This policy was in response to OIG Report No. [11-P-0315](#), *Agency-Wide Application of Region 7 NPDES Program Process Improvements Could Increase EPA Efficiency*, issued July 6, 2011, in which we recommended

that “OP develop a national policy on how to plan, design, and implement business process improvement events.” However, we found that the June 2016 policy statement does not address how to plan, design and implement Lean practices, nor does the policy provide sufficient direction for implementing and managing a large-scale organizational transformation like the Lean Government Initiative. Thus, the policy did not aid in institutionalizing Lean at the EPA.

The OP Lean team reported continued difficulties in establishing a Lean culture and instilling Lean thinking as a “way of doing business.” A Lean Rapid Assessment, which was conducted in October 2015 by OP at the request of former Administrator Gina McCarthy, supports the team’s perceptions. As shown in Figure 3, OP determined that the agency was rated at a Level 2 out of five possible levels in the Lean Maturity Model.

Figure 3: EPA’s rating on the Lean Maturity Model



Source: OP Lean Rapid Assessment.

Implementing a large-scale organizational transformation and establishing a culture that embraces Lean as a way of doing business requires the use of change management practices. These practices should actively involve and engage leaders, identify a dedicated implementation team (like OP) to manage the transformation, and develop a strategy for measuring progress and assessing and mitigating risk. This practice will help to more strategically implement the Lean initiative, as well as sustain it long term.

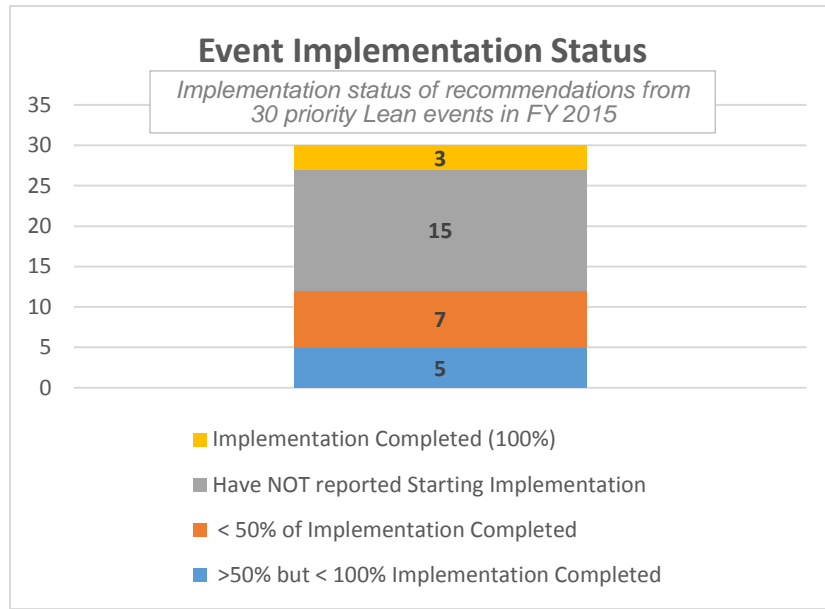
In its Lean Rapid Assessment, OP made the following statement:

These preliminary findings will continue to be refined, and once further informed by the [Assistant Administrator/Regional Administrator] dialogues and reports, will contribute to an action

plan designed to achieve full implementation of these plans ... only through full implementation will EPA advance on the Lean maturity model in order to sustain Lean as a cultural practice.

However, according to OP staff, the agency had not taken steps to institutionalize the Lean effort, which would help to translate the EPA’s policies and strategic plans into actionable guidelines that are applicable to the daily activities of its employees. For example, in FY 2015, the agency identified 39 Lean events as being priority projects. The responsible offices completed 30 of these 39 events, but OP’s Lean Rapid Assessment revealed that only half of the offices had either started or completed implementing the recommended improvements resulting from these Lean events (Figure 4). In addition, a formalized Lean implementation action plan was not published, as required by the EPA’s September 2015 Lean memorandum. However, although the agency has not issued a formalized Lean Implementation Action Plan, the OIG noted that OP has realized and delivered some improvements in certain areas, which would constitute the basis of an action plan for implementing Lean.

Figure 4: FY 2015 implementation status of Lean project results



Source: OP Lean Rapid Assessment, with data current as of October 27, 2015.

Insufficient Monitoring, Tracking and Reporting of Lean Projects

Insufficient Project Monitoring and Tracking

OP, which serves as the NPM for Lean, does not consistently monitor the progress of the agency’s Lean efforts, including timeframes for completion or status of implementation, nor does it accurately track and report project results.

Regions and offices report the status of their projects to OP, which then reports agencywide on the status of the EPA's Lean initiative.

The OIG performed a detailed review of six Lean projects in various stages of implementation, noting when the Lean event was held, when the implementation plan was finalized and completed, and when expected project results were submitted. We also conducted interviews with project team members. As shown in Table 5, we were unable to reconcile the data provided to us by OP with the project team's data.

Table 5: Comparison of OP and project team data

Project name	Primary process owner	Implementation plan						Expected project results submitted	
		Event held		Finalized		Activities completed		OP data	Project team data
		OP data	Project team data	OP data	Project team data	OP data	Project team data		
Agency Reorganization Process	OARM	Sep 2013	No event held	Sep 2014	Not reported	(a)	Sep 2014	Jan 2015	Not reported
OAR Hardship Application Process	OAR	Jan 2015	Feb 2015	Jun 2015	(a)	(a)	Jun 2015	Aug 2015	Aug 2015
OAR Congressional Correspondence Response Process Improvement	OAR	Jan 2014	(a)	Jul 2014	(a)	(a)	Third quarter of FY 2016	Jul 2014	(a)
OCFO Reimbursable IA Payment Process	OCFO	(a)	Mar 2014	Apr 2014	(a)	(a)	FY 2015	Aug 2014	End of FY 2015
Region 6 Inspection Report Normalization Process	Region 6	Oct 2013	No event held	Nov 2013	No event held	No Event Held	No event held	Jan 2016	Not reported
Regions 3 and 7 RCRA Corrective Action CMS Process	Regions 3 and 7	May 2014	(a)	May 2014	(a)	(a)	Jun 2015	Oct 2014	(a)

Source: OIG analysis of project data.

^a Information could not be reconciled with source document(s).

CMS: Corrective Measures Study
 IA: Interagency Agreement
 OAR: Office of Air and Radiation
 OARM: Office of Administration and Resources Management
 OCFO: Office of the Chief Financial Officer
 RCRA: Resource Conservation and Recovery Act

OP staff explained that the inconsistencies in monitoring projects were due to a combination of factors, such as different people entering information at different times, the technology used to enter data being limited and not user friendly, and/or information not being updated as it changed. In addition, project teams expressed frustration in submitting results to the national Lean metrics system.

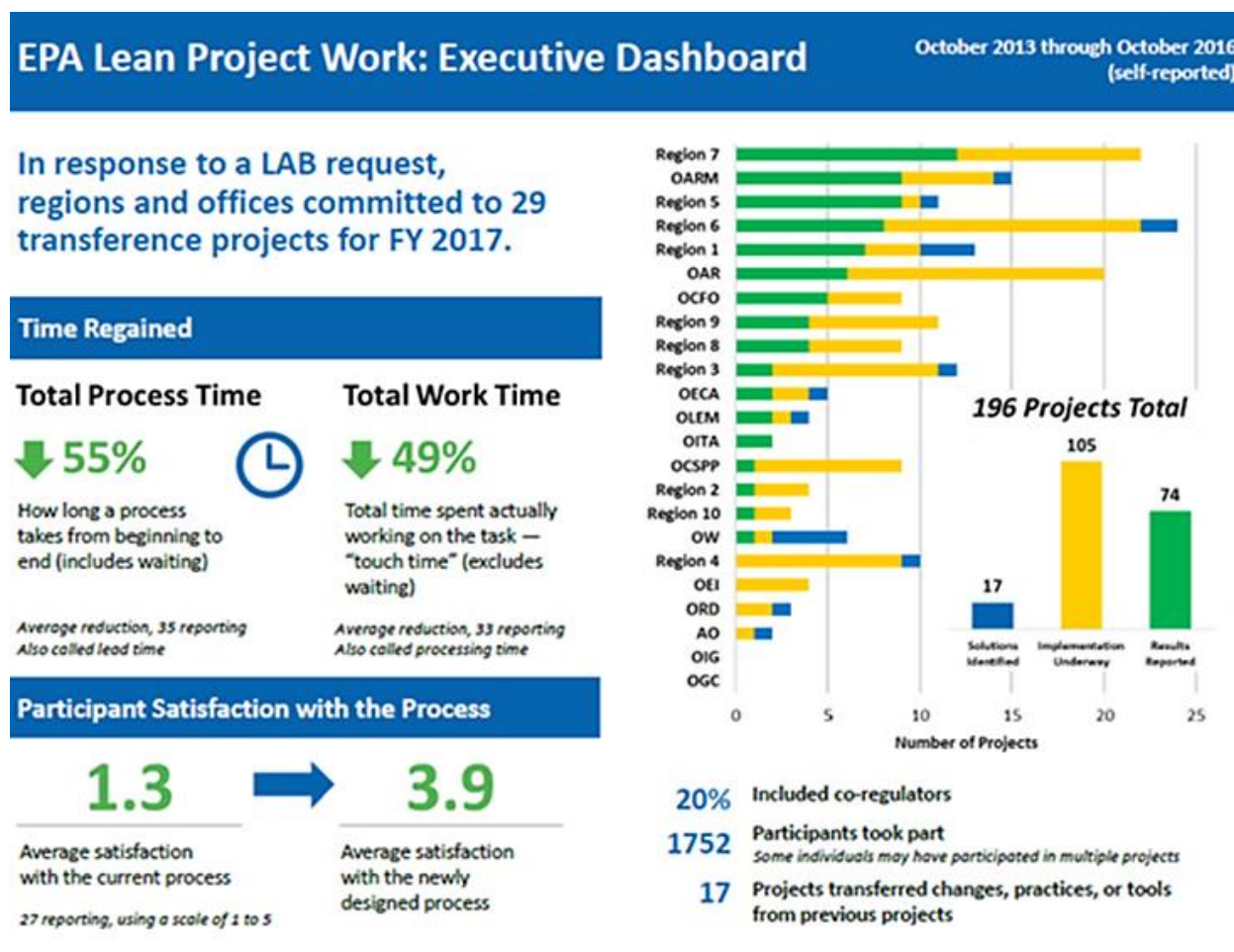
Compounding these challenges were OP's limited oversight and restricted authority for leading the Lean program. OP staff said that they cannot require project teams to report results, nor can they require project teams to use the available guidance for determining individual project metrics. As mentioned in

the “Noteworthy Achievements” section, OP developed a new automated Lean tracking system—called LeanTrack—that should help eliminate inconsistencies and improve oversight capabilities. This new system was designed to allow any project team to view the information on any project in the database. LeanTrack was officially launched on March 1, 2017.

Insufficient Project Reporting

Project results, which are self-reported by the project team members at the end of a Lean event, are based on projected or estimated process improvements (Figure 5). Furthermore, the EPA does not report on projected savings or cost avoidances.⁴

Figure 5: Dashboard of EPA’s Lean project results (October 2013–October 2016)



Source: EPA Lean Government intranet site.

⁴ In November 2016, OP staff stated that project leads have started reporting on actual savings. The OIG has not been able to review and confirm these savings.

According to OP staff, not all regions or headquarters offices report their information or calculate metrics the same way. In addition, OP does not collect information on project efforts, project progress, or the methodologies used for estimating or calculating project outcomes. OP also does not analyze and compare projected results to actual outcomes. OP has identified a number of improvements and efficiencies resulting from select Lean projects, such as reduced timeframes or eliminated steps, but does not translate those project results into related costs. Furthermore, because OP does not consider cost to be a primary efficiency measure, it does not include financial benefits in its data reporting, even if financial benefits are reported by individual project teams. As a result, OP has not translated, identified or reported project outcomes in terms of related cost savings, cost avoidances, or funds put to better use for any of the EPA's more than 150 Lean projects (Figure 5).

OP's acting Associate Administrator provided the following statement:

While OP does not report on these results in aggregate, some projects do track these metrics and report them to OP. OP is aware of numerous projects for which this information has been calculated and reported. Moreover, as a resource document, the *Lean Government Metrics Guide* does not dictate what metrics must be used and when. The guide states that it is important to remember that the Lean ... metrics discussed in this guide should ultimately support progress toward achieving the agency's mission.

Yet, the *Lean Government Metrics Guide* clearly outlines cost as a process metric and provides instruction on how to calculate cost metrics. OSEM's Associate Director acknowledged that the EPA could more effectively report and share actual results, noting that the agency has made recent progress on reporting such results.

Limited Oversight and Restricted Authority to Implement Lean

The EPA provides limited oversight for leading, implementing and monitoring the Lean program agencywide, as well as for establishing expectations and accountability. OP staff have been assessing and addressing circumstances ad hoc and lack a cohesive Lean strategy.

Currently, the responsible office for the EPA's Lean Government Initiative is OP's OSEM, Evaluation Support Division. According to the Associate Director of OSEM, "As the NPM, OP provides infrastructure to the Lean Government Initiative by funding, directing, training and convening to share ideas."

OP staff asserted that involvement in the EPA's Lean Government Initiative is voluntary, with a decentralized process. However, the EPA's June 2016 policy statement established a LAB composed of senior executive service members who

“provide oversight and guidance, utilizing evidence from Lean practices to monitor the success of this policy at the EPA.”

Per the LAB’s charter, strategy document and website, the LAB is required to perform the following actions:

- Evaluate and select a limited number of Lean projects whose results can be transferred or scaled up to better accomplish EPA’s mission of protecting human health and the environment.
- Direct the agency’s Lean resources toward best opportunities.
- Gain and share insights into the strategies that best support a culture of Lean thinking and continuous process improvement.
- Advance the practice of Lean to ensure continuous improvement at the EPA and with state partners.
- Report quarterly to the Administrator and Deputy Administrator.

The LAB comprises three to six Senior Executive Service-level officials, two state representatives, and a facilitator, all of whom also have the day-to-day task of managing their respective programs or regional offices. LAB members have begun to examine both Lean projects done internally at the EPA and those done in coordination with external stakeholders. Members meet occasionally via teleconference to evaluate and select a limited number of Lean projects, with the goal of identifying results that can be transferred or scaled up for use by other offices. However, OP and the LAB have not coordinated to determine how they will achieve the charges dictated within the June 2016 policy statement, *Applying Lean Practices to Modernize the Business of Environmental Protection at the EPA*. While the newly formed LAB is still working to realize its objectives, the LAB alone cannot provide adequate oversight of this large-scale initiative. A dedicated, fully authorized project management team (such as OP) is still needed to augment the LAB’s oversight functions.

Since Lean is not institutionalized at the agency, there is no strategic plan or strategic implementation of the program. Further, with restricted authority for leading the Lean initiative, OP staff cannot effectively monitor the progress of projects, require project teams to report consistently, implement identified solutions, establish consistent training, or hold accountable those project owners who impede implementation or do not act in accordance with policy and guidance.

Lean Training Not Standardized

The EPA does not provide nor have a requirement for standardized Lean training. Staff reported that OSEM provides support to regions/offices in obtaining training as requested rather than developing and disseminating a common curriculum throughout the agency. OSEM staff added that, as a result, regions and offices initiate their own efforts to obtain the training they deem appropriate, which can vary in quality, concepts, terms and activities.

OSEM's Associate Director provided documentation from representatives of numerous EPA offices and programs citing, among other issues, that the agency has a need for Lean training. More specifically, OP's Lean Rapid Assessment noted the following training needs:

- Core team members need more technical coaching and mentoring for completing their projects using Lean tools.
- Key team members have not had training on tools that facilitate the implementation phase to reach sustained results; there is a need for expert support to fill this gap.
- Not enough core staff are trained regarding what Lean tools can help with implementation; there is a lack of awareness/understanding in this area.



Lean training is currently not standardized across the agency. (EPA photo)

The EPA notes the need for standardized training in its July 2015 guide, *Lean Continuous Process Improvement Training Strategy and Capacity Building Efforts at EPA*, which communicates the agency's Lean training strategy and offers guidance for attaining the Continuous Process Improvement (CPI) core competencies. In the guide, the agency's Lean Community of Practice noted that "the variation in training has raised some ... issues related to a standardized curriculum and the adoption of a CPI certification program," such as a "belt" system for advanced practitioners. However, although OP has made available a set of core competencies and basic body of knowledge, there is still variation in the training agencywide.

In February 2017, OP's acting Associate Administrator did state that "OP is now developing a more specific training curriculum for event participants, managers, project implementation teams, and project facilitators." The OIG was not able to review and confirm this claim.

Opportunities Exist to Strengthen EPA's Streamlining Efforts

In its September 2014 Lean memorandum, the EPA emphasized that each Lean project is a significant investment. If the agency does not closely oversee and

monitor its progress on waste reduction, performance and management improvements, and if it does not maximize the application of Lean practices and business process improvement approaches, it may be wasting resources by failing to create efficiencies. Specifically, the agency will not be fulfilling the expectations of the 2014 and 2015 Administrator’s memorandums or of the 2016 policy statement. Additionally, without operating efficiently and effectively, the EPA will not be serving as a proper steward of federal resources or operating as a high-performing organization.

Tracking and reporting actual project results, along with calculating any estimated benefits and savings using only quality data and methodologies, will enable the EPA to better represent, substantiate and understand the accuracy and reliability of any savings or efficiencies resulting from its Lean Government Initiative. Seeing project outcomes in terms of financial benefits will help to build momentum and promote the Lean Government Initiative, generate employee engagement, increase management buy-in, and make a case for transformation and change.

For the Lean Government Initiative to be fully successful and to enable the tracking and reporting of efficiencies, the agency must incorporate change management strategies that encourage the use of Lean practices. The EPA must also standardize and coordinate Lean-specific training. OP staff should be given the necessary authority and resources to set priorities, make decisions, and act to implement Lean goals and expectations. The OIG agrees with OP’s assessment that, with a full implementation plan, the EPA can advance on the Lean Maturity Model and sustain Lean as a cultural practice.

Recent Agency Actions Prompted by OIG Work

OP staff stated that they published an update to the *Lean Government Implementation Guide* in February 2017 that contains a standard set of tools and templates to help Lean practitioners and facilitators plan for, conduct and implement the results of Lean projects. However, the OIG learned that, at the time our report was finalized, OP’s *Lean Government Implementation Guide* had not been published but was still in draft form and under review by the agency.

In addition, OP staff stated that, in May 2017, they began conducting a new comprehensive training program for Lean event participants, managers, project implementation teams, project facilitators, general staff and managers. Specific training courses include a Basic Lean Facilitation (“Greenbelt”) certification course and an Advanced Lean Facilitation course.

Recommendations

We recommend that the Associate Administrator for Policy:

1. Implement a strategy for institutionalizing the Lean Government Initiative within the agency by integrating the application of Lean practices and business process improvement approaches.
2. Develop policies that specify how to plan, design, oversee and implement Lean practices within the agency.
3. Develop a process for monitoring, tracking and measuring quantifiable results, including cost savings, for Lean projects.
4. Develop a process for a) vetting projects that have the potential for standardized implementation across the agency and b) collaborating on projects to maximize the application of Lean, as well as sharing experiences and lessons learned agencywide.
5. Develop and implement a consistent and standardized Lean training effort for the EPA's staff.

Agency Response and OIG Evaluation

The EPA concurred with all recommendations. The agency provided an estimated completion date of June 2018 for corrective actions related to Recommendations 1, 2, 4 and 5. The agency provided an estimated completion date of January 2018 for actions related to Recommendation 3.

For Recommendation 1, OP agreed to work with its administrative offices, national program offices and regional offices to develop a draft Lean strategy by June 2018.

For Recommendation 2, OP agreed to develop policies that specify how to plan, design, oversee and implement Lean practices within the agency by June 2018.

For Recommendation 3, OP launched a new tracking system in March 2017 that automated the process for monitoring, tracking and measuring quantifiable results for Lean projects. The agency also stated that it plans to complete a pilot process by January 2018 for measuring cost savings realized from Lean projects.

Regarding Recommendation 4, the agency concurred with the recommendations that it collaborate on Lean projects to avoid overlap and that it develop processes to share experiences and lessons learned nationwide. However, the agency asked that the OIG reconsider its recommendation for vetting projects. The OIG agreed and revised the recommendation based on the agency's response to the draft report and discussions with the agency. The agency concurred with the revised

recommendation. To meet the intent of the revised recommendation, OP agreed to complete the following actions by June 2018:

1. Use LeanTrack to identify similar projects.
2. Facilitate coordination of teams with similar projects.
3. Use the LAB to identify and prioritize Lean projects with agencywide implications for transference with the goal of standardization across the agency.

For Recommendation 5, OP implemented a new comprehensive training program in May 2017 for Lean event participants, managers, project implementation teams, project facilitators, general staff and managers. In addition, OP stated that it plans to establish a standard curriculum through which all agency employees can gain Lean knowledge and skills by June 2018. OP also described its plans to establish required annual training for all agency employees regarding Lean basics, as well as more specific and required annual training for agency managers.

These recommendations will remain open pending completion of the proposed corrective actions.

The complete agency response to the draft report is in Appendix A.

Status of Recommendations and Potential Monetary Benefits

RECOMMENDATIONS

Rec. No.	Page No.	Subject	Status ¹	Action Official	Planned Completion Date	Potential Monetary Benefits (in \$000s)
1	22	Implement a strategy for institutionalizing the Lean Government Initiative within the agency by integrating the application of Lean practices and business process improvement approaches.	R	Associate Administrator for Policy	6/30/18	
2	22	Develop policies that specify how to plan, design, oversee and implement Lean practices within the agency.	R	Associate Administrator for Policy	6/30/18	
3	22	Develop a process for monitoring, tracking and measuring quantifiable results, including cost savings, for Lean projects.	R	Associate Administrator for Policy	1/31/18	
4	22	Develop a process for a) vetting projects that have the potential for standardized implementation across the agency and b) collaborating on projects to maximize the application of Lean, as well as sharing experiences and lessons learned agencywide.	R	Associate Administrator for Policy	6/30/18	
5	22	Develop and implement a consistent and standardized Lean training effort for the EPA's staff.	R	Associate Administrator for Policy	6/30/18	

¹ C = Corrective action completed.

R = Recommendation resolved with corrective action pending.

U = Recommendation unresolved with resolution efforts in progress.

Agency Response to Draft Report



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
POLICY

MEMORANDUM

SUBJECT: Response to Office of Inspector General's Final Audit Report No. OA-FY16-0107, *EPA's Lean Government Initiative: Opportunities Exist to Strengthen the Agency's Streamlining Efforts*, dated May 25, 2017

FROM: *Kevin N. Driscoll for*
Samantha Dravis, Senior Counsel and Associate Administrator
Office of Policy *[Signature]* 6/22/17

TO: Kevin Christensen, Assistant Inspector General
Office of Inspector General / Office of Audit

Thank you for the opportunity to respond to the proposed recommendations in the subject audit report. EPA's overall response to each of the Office of Inspector General's (OIG) proposed recommendations, including comments on the findings and, where appropriate, planned corrective actions and estimated completion dates are provided below.

1) Proposed Recommendation: The Associate Administrator for Policy should implement a strategy for institutionalizing the Lean Government Initiative within the agency by integrating the application of Lean practices and business process improvement approaches.

EPA Response: EPA concurs with this recommendation. The Office of Policy (OP) plans to work with its administrative offices, national program offices, and regional offices to develop a draft strategy by June 2018.

2) Proposed Recommendation: The Associate Administrator for Policy should develop policies that specify how to plan, design, oversee and implement Lean practices within the agency.

EPA Response: EPA concurs with this recommendation. While the agency does not yet have policies that specifically address how to plan, design, oversee and implement Lean practices, the Agency has developed several resources to facilitate, guide and promote the integration of Lean practices across the agency. In February 2017, OP published an update to the Lean Government Implementation Guide that contains a standard set of tools and templates to help Lean

practitioners and facilitators plan for, conduct and implement results of Lean projects. In addition, EPA's Lean Intranet site includes several tools to help staff plan, design, oversee and implement Lean projects within the agency.

EPA will develop policies that capitalize on these existing tools to expand the knowledge and understanding of Lean across the agency. OP will develop these draft policies by June 2018.

3) Proposed Recommendation: The Associate Administrator for Policy should develop a process for monitoring, tracking and measuring quantifiable results, including cost savings, for Lean projects.

EPA Response: EPA concurs with this recommendation. OP has developed a process for monitoring, tracking and measuring quantifiable results for Lean projects. This process is available on the agency's Lean Intranet site and outlined in the EPA Way Kit for Lean Projects. The Metrics Checklist guides Lean teams through a detailed process to select metrics to support project implementation and track quantifiable results following project completion. In addition to this information being available on the Intranet, this information is routinely discussed with Lean Teams, during Community of Practice teleconferences, and periodically shared with members of the Lean community through email updates.

EPA recently launched a new tracking system called LeanTrack to automate this process. LeanTrack includes information on over 200 EPA improvement projects and over 700 state projects. EPA staff can use LeanTrack to search for information on a wide range of Lean projects, enter data on new and existing projects, and generate custom reports. Following the launch of LeanTrack, OP held webinars and provided resources via the Intranet to help staff understand how to use the new system. Over 100 people participated in three webinars held by OP staff. EPA fully expects that the new system will significantly eliminate inconsistencies in reporting and improve oversight capabilities.

While financial savings has not been a primary intention of the Lean Government Initiative, EPA concurs with the recommendation that it develop a process to measure cost savings realized from Lean projects. The agency plans to complete a pilot process for doing so by January 2018. This process will be included in the policies developed under Recommendation 2.

4) Proposed Recommendation: The Associate Administrator for Policy should develop a process for vetting and collaborating on Lean projects to avoid overlap, as well as a process to share experiences and lessons learned nationwide.

EPA Response: EPA does not concur with the recommendation that it should vet Lean projects. EPA concurs with the recommendations that it collaborate on Lean projects to avoid overlap and that it develop processes to share experiences and lessons learned nationwide.

As stated in the agency's January 30, 2017 response to OIG's discussion document, EPA believes that establishing a "governing entity" to vet lean projects could be a disincentive to programs and offices considering a Lean project. Lean projects are selected and implemented at the local level based on what individual offices determine to be relevant. This approach provides

individual offices with the flexibility to choose projects based on their specific needs. EPA recognizes a difference between smaller, locally focused Lean and those that affect the entire agency. OIG might consider focusing its recommendation on vetting of those projects to those with the purpose of and potential for standardized implementation across the entire agency.

EPA continues to believe that OIG's perceived overlap and duplication of Lean projects is often a result of improving different parts of an administrative process. At the same time, EPA concurs with the finding that OP should do more to collaborate and coordinate efforts between offices with similar projects to adhere to the policy of maximizing the application of Lean practices and business process improvement approaches. As one example, for projects with agency-wide implications, the Lean Action Board should identify and prioritize Lean projects for endorsement by agency senior leadership.

OP has developed toolkits that support knowledge sharing across EPA offices, has organized a highly attended series of webinars on the transference projects, and is providing Lean facilitation expertise to ensure consistency across the projects. EPA believes that project transference is fundamental to realizing the efficiencies of EPA's Lean Initiative. LeanTrack provides EPA with a greater opportunity to identify similar projects and to facilitate the coordination of the teams conducting such projects.

The EPA has created several mechanisms in place to facilitate and promote the sharing of experiences and lessons learned through the Lean Community of Practice, the Lean Advocates and the Lean Action Board. EPA will use these networks, including our website and Agency-wide communications to enhance sharing of project examples and results.

5) Proposed Recommendation: The Associate Administrator for Policy should develop and implement a consistent and standardized Lean training effort for the EPA's staff.

EPA Response: EPA concurs with this recommendation. Since at least 2013, EPA has offered some standardized Lean training, such as Lean awareness webinars. Over 2500 managers and staff have voluntarily participated in Lean awareness training.

In addition, the agency recently developed a comprehensive training program for Lean event participants, managers, project implementation teams, project facilitators, general staff and managers. Specific training courses include a Basic Lean Facilitation ("Greenbelt") certification course and an Advanced Lean Facilitation course. Each course includes one-week of in-person training and several supporting webinars.

Employees who complete these courses will gain valuable skills for applying Lean tools and facilitation techniques to execute projects and guide others through the continuous improvement process. OP launched the new training program in May 2017 and is scheduled to hold two courses this summer and one in the fall. OP is planning to deliver additional sessions of the Greenbelt course to EPA staff in multiple regional offices before the end of the calendar year. EPA is also developing course for managers that it expects to begin offering by January 2018. The agency plans to offer each of these training courses on a regular basis.

In addition to the training developed by OP, two other EPA offices (Region 9 and OARM) are also conducting Lean training. By June 2018, OP will establish a standard curriculum through which all agency employees can gain Lean knowledge and skills. EPA will pursue the establishment of required training in Lean basics for all agency employees, as well as more specific training for agency managers, as part of the annual training requirement.

We appreciate OIG's collaboration throughout the development of this audit and look forward to working with you to improve EPA's Lean Government Initiative.

Distribution

The Administrator
Deputy Administrator
Chief of Staff
Chief of Staff for Operations
Deputy Chief of Staff for Operations
Agency Follow-Up Official (the CFO)
Agency Follow-Up Coordinator
General Counsel
Associate Administrator for Congressional and Intergovernmental Relations
Associate Administrator for Public Affairs
Associate Administrator for Policy
Principal Deputy Associate Administrator, Office of Policy
Director, Office of Strategic Environmental Management, Office of Policy
Audit Follow-Up Coordinator, Office of the Administrator