Lean Government

EPA Region 7 and Four States
Clean Air Act State Implementation Plan (SIP)
Kaizen Event Case Study

Summary

EPA and the four States of Region 7—Iowa, Kansas, Missouri, and Nebraska—conducted a Lean kaizen event in January 2010 to cut waste and improve the speed and effectiveness of the Clean Air Act State Implementation Plan (SIP) process in the region. Every State is required to develop an implementation plan for meeting the Clean Air Act requirements; when national rules, state rules, and/or National Ambient Air Quality Standard (NAAQS) attainment status changes, States must submit revised SIPs to EPA for review and approval. EPA's review involves the EPA regional office along with the EPA headquarters Office of Air and Radiation (OAR), Office of Air Quality Planning and Standards (OAQPS), and Office of General Counsel (OGC). Prior to the event, it took as much as an estimated 7.4 years to complete the SIP process in Region 7, from the time EPA promulgates a rule through the SIP development, review, and final approval.[1] With the new process that the kaizen event team developed, the Region 7 SIP process could take significantly less time—as little as 3.2 years (56% less).

This Lean SIP process improvement event sought to address recommendations in the National Academy of Sciences' 2004 report to Congress on "Air Quality Management in the United States" by enhancing the effectiveness and efficiency of the SIP process. It was also responsive to EPA's Clean Air Act Advisory Committee (CAAAC) Air Quality Management Task Force's Recommendations.

During the kaizen event, participants developed a detailed process map of the existing SIP process, brainstormed new approaches, and developed a process map and plan for a new process that could significantly reduce processing timelines, eliminate redundant or unnecessary work, and improve collaboration. Process improvements were identified for three phases of the SIP process: (1) designations—the process of designating nonattainment areas after EPA issues a new NAAQS, (2) the State's SIP development process and EPA's review process, and (3) the public comment and final approval process. Since the event, the kaizen event team has organized into workgroups to implement the action items from the event and other follow-up activities needed to enact the new SIP process.

[1] 7.4 years is a "worst case" estimate of the time needed to complete the current process, not including litigation.

Results

Participants in the SIP kaizen event designed a new, streamlined SIP process representing a desired future state and identified a series of process improvement actions to work towards the new process. Once fully implemented, the new SIP process is anticipated to yield the following **results:**

- Reduced total **processing time** for the SIP process from 7.4 to 3.2 years (56% reduction).
- Reduced the best case **delay time** from 4.7 to 1.1 years (77% reduction) and the worst case delay time from 8 to 1.3 years (84% reduction).
- Decreased **process steps** from 165 to 134 (19% reduction).
- Cut the number of **decisions** from 14 to 8 (43% reduction).
- Freed staff time to address the Region 7 SIP **backlog** and avoid creating a future backlog.

The actual results of implementing the new process could vary widely depending on a number of issues, many of which are outside the control of the states and the EPA regional office. Although it may take a while for EPA and the Region 7 States to fully implement the new SIP process and thus achieve the full benefits of the new process, the agencies that participated in the kaizen event are actively working together on implementation priorities. They have also already benefited from the increased understanding and improved communications and collaboration fostered in the event.

Scope of the Lean Project

Project Scope: Clean Air Act SIP process from the time EPA promulgates a rule that requires States to prepare or modify a SIP through the final EPA approval of the SIP

Goals

The goals of the event included:

- 100% of approvable NAAQS attainment demonstration SIP submittals occur within statutory timeframes.
- SIPs are of sufficient quality to be approvable on the first pass.
- Reduce processing time by 50 percent.
- Eliminate a third of the SIP processing backlog each year for the next 3 years, excluding SIPs that are being held up by lawsuits.

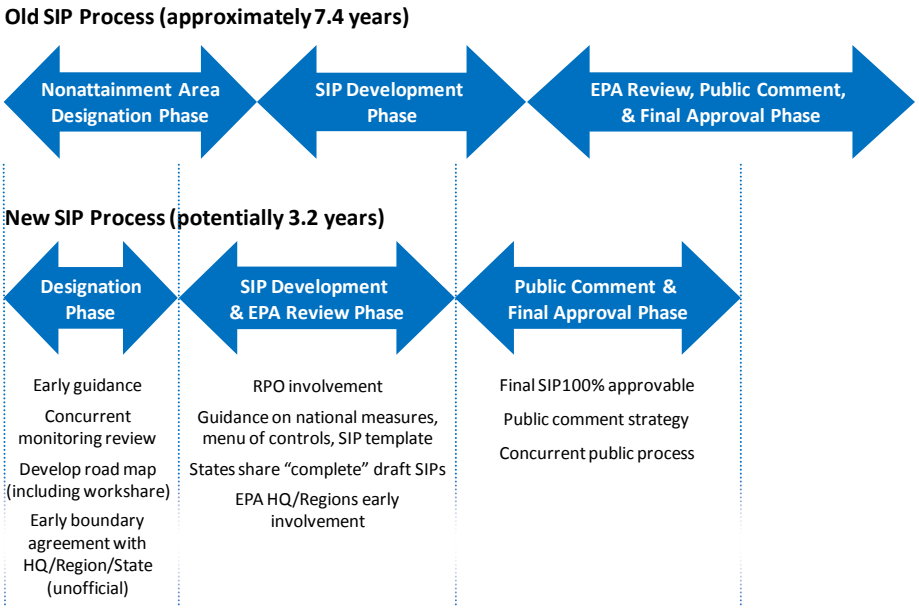
Process Changes and Improvements

During this kaizen event, participants developed and analyzed "current" and "future" maps of the SIP process, focusing on SIPs that relate to demonstrating attainment of national ambient air quality standards for ozone. Along with these process maps, participants came up with the following key improvement actions to achieve the future SIP process.

- Provide **early guidance** to States on **designations** and **designation boundaries** to improve the quality of State submittals and allow States avoid rework in their boundary recommendation efforts, which lead to the development of SIPs for the designated nonattainment areas.
    - Ideally EPA should strive to issue implementation rule and related guidance with NAAQS promulgation. (If complete guidance cannot be issued, EPA could identify key elements that States need to move forward and provide that information in a memorandum. This information could include technical requirements such as modeling and inventory development guidance changes, any large or key changes to existing implementation guidance, and/or new emission control requirements.)
    - A joint meeting with EPA headquarters, Region 7, and the affected State(s) may be needed to reach agreement on the designation boundaries for each area.
- Develop a designation and SIP-development **"road map**" for each geographic area that allows for EPA, States, and regional planning organizations (RPOs) to coordinate on a plan for efficiently conducting the work, including **work sharing, concurrent review, and improved collaboration**. Establishing clear **roles and responsibilities** as well as a **schedule** for the SIP development and review process will help to decrease processing time and delays, eliminate unnecessary process steps, and improve the outcomes of the process.
    - This process relies on early planning, strong working relationships, and a commitment to making timely decisions and following through on them.
- Through the road map approach, EPA and the Region 7 States plan to **shift from sequential to concurrent** steps at many points in the process to save time, while ensuring the same level of environmental protection.
    - In the new process, States will include legal and enforceability reviews as part of their internal rule development process, as some States do already.

- Explore options to **engage RPOs** for technical work for air issues affecting multiple states. As regional resources, RPOs could potentially contribute to overall efficiency improvements in the SIP process by conducting regional analyses that multiple states could use in their SIPs as well as potentially through work sharing agreements with States.
    - The RPO in the Midwest—the Central Regional Air Planning Association (CENRAP), which is affiliated with the Central States Air Resource Agencies (CENSARA)—is one of five RPOs in the country. These RPOs have varying degrees of resources and expertise.
- Develop **standard tools and templates** to assist States with SIP development and to speed EPA's SIP review process. Products included the following:
    - A **SIP** template for SIP submittals, focusing initially on ozone attainment demonstration SIPs
    - A **menu** of control options that are acceptable to include in SIPs (This will be developed by 2011 for ozone.)
- Provide **guidance on national measures** (rules and tools) that could improve the SIP process. Quantifying emissions reductions expected in future year emissions inventories in SIPs for "on the books" federal regulations will assist States in efficiently completing their SIP submittals. The kaizen team also decided to explore any feasible actions related to federal rules and measures that could positively affect the efficiency of SIP process.
- Develop a **strategy for the public comment and federal register process** that maximizes efficiency while retaining transparency and environmental protection.
    - As part of the collaborative process, States, working with RPOs, will draft and share the whole SIP package (all pieces of a SIP submittal) with EPA early, prior to public meetings.
    - States and EPA will address all issues and comments at early draft stage so that the final document is "ready to go" at submittal. (This is predicated on timely promulgation of an implementation rule and/or adequate guidance to inform the development of the SIP.)
    - The public comment strategy will include options for efficient processes (such as a direct final rule process that uses one instead of two stages of public comment when adverse comments are not expected or an EPA/State parallel process).

Figure 1: Changes to the Four State/EPA Region 7 State Implementation Plan (SIP) Process



- **Eliminate unnecessary documentation** such as federal technical support documents as part of Federal Register package, the completeness letter, and other items.

Transferability

Many of the process improvement strategies used in the Region 7 SIP Lean event are approaches that are relevant nationally or could be adapted to other Regions or States; however, other strategies are not directly transferable since they depend on the specific processes and relationships involving Region 7, Iowa, Kansas, Missouri, and Nebraska. Region-specific elements include work sharing, use of RPOs, the specific collaborative approach between the States and Region, and the willingness of all parties to work together on SIPs early in the process. Transferable elements of the Region 7 SIP Lean approach include:

- Early guidance/implementation rules from EPA
- SIP template
- Menu of control options
- Quantification of emissions reductions needed for future year emissions inventories
- Creative strategies for processing public comments
- Reduced EPA documentation
- SIP Training
- Timely management decisions

Figure 2: Current Process Map

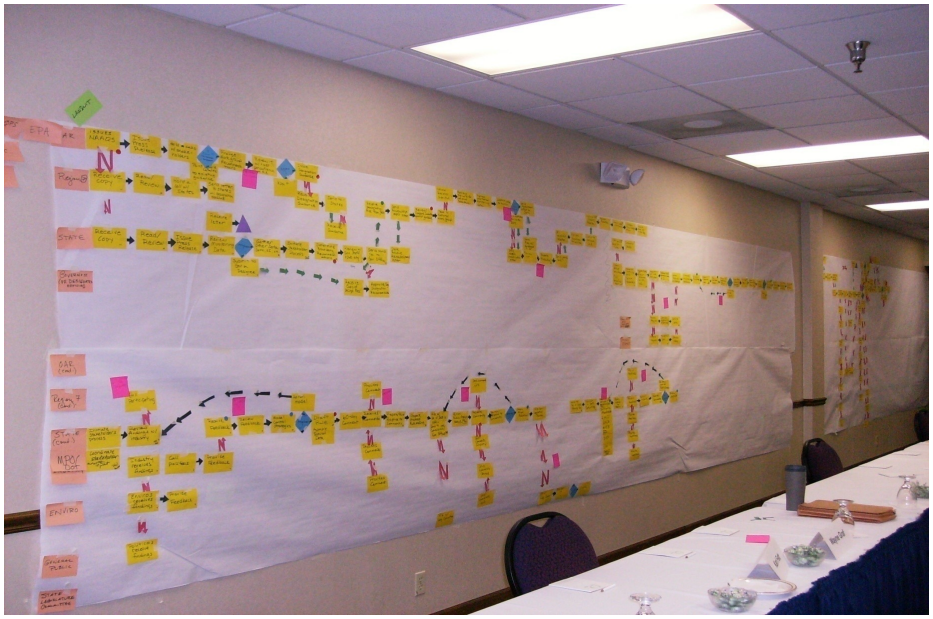
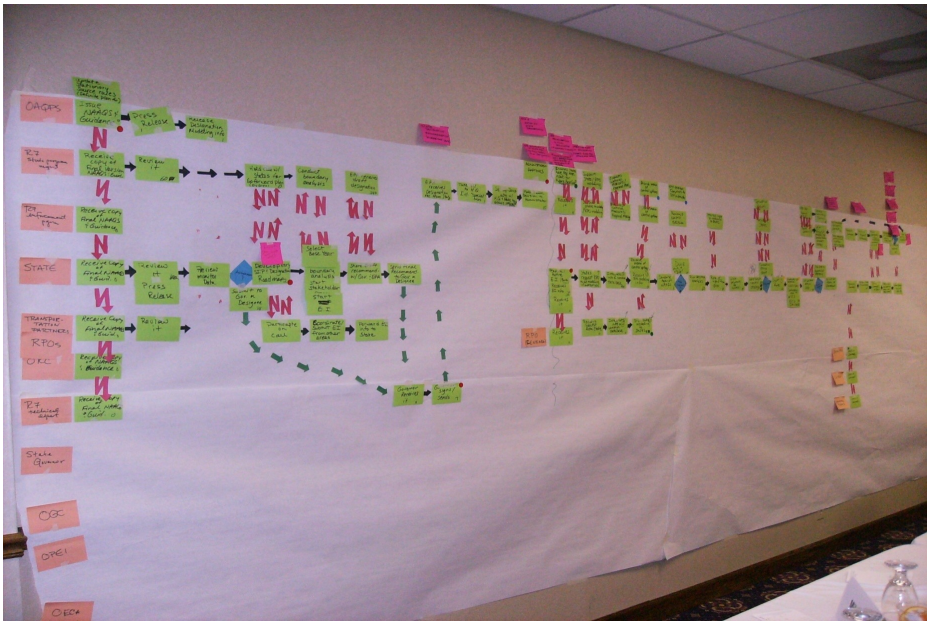


Figure 3: Future Process Map



Implementation

Since the event, the SIP kaizen event team has organized into seven implementation workgroups covering the major follow-up areas from the event as well as conducted a series of presentations and follow-up meetings. The team has held 30-day and 60-day follow-up meetings by conference call and met in person for a 90-day follow-up meeting in April 2010. The workgroups involve participants from the event as well as additional staff from EPA headquarters, regional offices, States, and the Mid-America Regional Council (the metropolitan planning organization for the greater Kansas City area). The roadmap workgroup is working to identify and pilot test at least one SIP per State to run through the new process. Other workgroups are developing tools and products, such as a menu of control options and a SIP template; clarifying roles and procedures to improve efficiencies; and planning for additional communications and rollout.

At the 90-day meeting, the kaizen event team identified the next set of action items and milestones for implementation of the new SIP process as well as the tools, products, and procedures to support it. Roadmaps for four pilot SIPs (one per State) will be initiated immediately following the 90-day meeting. These roadmaps will provide a benchmark by which progress toward the SIP Lean goals can be measured and evaluated over time.

For More Information:

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