



Lean Government

Region 1 Laboratory Purchasing Process

Lean Event Case Study

Summary

In January 2014, EPA Region 1 held a value-stream mapping event to improve the Region's small purchasing process. Each year, the Region 1 Office of Environmental Measurement and Evaluation (OEME) makes between 500 – 600 small purchases to acquire necessary laboratory and field supplies, equipment, and services. This event examined the OEME process from identification of the need for an item through completion of the purchase transaction. The Region initiated the project to increase efficiency as the process team reduced from three people to one person, and to prevent errors created by handwritten orders. Event participants created a new process that will reduce the number of days to complete an order by 60 percent; combine similar purchases into fewer, larger purchases; and will transfer all orders to an electronic system. As of July 2014, errors in lab purchase forms have been reduced by 50 percent.

Results

The improvements in the new process are expected to reduce lead time in permit review by 72 percent. The new process will also create new opportunities for staff learning and feedback.

Metric	Current State	Anticipated Future State	Anticipated Percent Change
Number of steps to complete purchase	27	16	↓40%
Number of days to complete an order	12	5	↓60%

**Results are anticipated based on the new process design*



Figure 1: The Lean Event Team (Phil Warren, Kathy Ivanovski, Donna Beecy, Bhavita Patel, Ernie Waterman, Tim Bridges)

Scope of the Lean Project

Project Scope: The Lean event scope encompassed the OEME laboratory small purchasing process from identification of the need for a purchase through completion of the purchase transaction. This event did not include examination of the bankcard log and cost allocation process, which is administered by OARM.

Goals:

1. Streamline the process to identify, review and approve purchases -- especially for acquisition of regular, routine laboratory supplies.
2. Develop a standard, electronic order, approval and tracking system.

Objectives:

1. Reduce the number of individual purchases by 20 percent. Many purchases were duplicates; for example, many people would order a single box of gloves during a short period of time. The event team aimed to reduce the total number of individual purchases by consolidating them.
2. Evenly distribute the purchasing workload across all months of the fiscal year, in order to prevent bottlenecks during peak ordering months.
3. Reduce the number of incorrect order forms received by the purchasing staff by 100 percent.



Figure 2: Current Process Map (top) and Future Process Map (bottom)

Process Changes and Improvements

Participants in the Lab Purchasing Lean event mapped the current purchasing process in Region 1 and analyzed the process map to develop streamlined procedures.

The event team identified the following process changes that the Region 1 lab will implement:

- Automate the order form so that all information is standardized and submitted to purchasing correctly.
- Set up a visual inventory system (see Figure 2 below) for commonly ordered supplies.
- Provide the purchasing agent with a list of personnel who work in the same lab area so that their purchases can be bundled.
- Reduce review steps for items that are required to be ordered on a regular basis, such as standards.



Figure 3: Visual Inventory System Labeling Small, Medium, Large, and X-Large Disposable Gloves

Implementation

The team has held 30-, 60-, and 90-day check-in meetings to coordinate on implementation of the process improvements that the team identified during the event. They also held an all-hands meeting at the lab to train everyone affected by the new process. Over summer 2014, the team implemented all of the identified improvements, and shifted responsibility for certain tasks (e.g. verifying that purchases of electronic equipment complies with relevant regulations) from the purchasing agent to the purchaser, which reduced review time and steps. As a result of the implementation of these improvements, errors in the lab purchase forms have been reduced by 50 percent.

For More Information:

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