

US EPA ARCHIVE DOCUMENT

EPA 2009 State Innovations Grant July – September 2012

Washington State Department of Ecology – Lean and Green Assistance 10-31-2012

Part 1 Synopsis of Accomplishments during the Reporting Period

July 2012	Pollution Prevention Resource Center staff complete company and agency staff follow up interviews for the Heath Tecna events.
August 2012	Ecology sent out electronic newsletter with article on available L&G funding for facilities. Newsletter goes to 3000+ facilities. http://www.ecy.wa.gov/programs/hwtr/shoptalkonline/current_issue/story_two.html
August 2012	AccraFab video nominated for and wins a Most Valuable Player for Multimedia award from the National Pollution Prevention Roundtable (NPPR).
August 16, 2012	SunOpta video put on hold when new plant manager sees video for the first time, was not involved in L&G work, and doesn't support distribution or nomination for NPPR award.

Part 2 – Narrative Discussion

This quarter we focused on initial follow up information for the Heath Tecna project and continued to market for new projects. Project interviews were held by phone as we've done before. No problems were encountered. As of now, no new projects have been found.

Important points - The interviews and some time to reflect sharpened a couple of lessons learned at Heath Tecna.

Scrap is a waste that can be reduced

It's easy to ignore waste that is generated by scrapped parts or product. This type of waste is often not quantified or tracked in any way. Also, some companies rework or recycle these parts and may not think of them as waste. The last of the 4 Heath Tecna lean and green events did focus on the scrap. Scrap was chosen as waste to reduce when a gemba walk identified it as one of the primary sources of solid waste. The environmental waste includes both loss of raw materials and increased solid or hazardous waste generation. The scrap also generates significant labor waste.

Additional evaluation methods support typical Lean work

The Impact Washington facilitator introduced two techniques new to facility and agency staff that were very helpful, FMEA and Six Boxes. The company was open to using additional techniques when minimal quantitative data were available. These tools were effective in identifying and developing a method to address the likely root causes of scrap. They're described below.

Failure modes and effects analysis (FMEA) – this tool can be used when there are little or no quantitative data to identify root causes of waste. Facility staff list potential manufacturing mistakes (i.e. failure mode) in a part or product based on their experience. Then, they list the following for each failure mode:

- potential failure causes,
- severity of the effect on the part, and

- ease of detection of the cause.

Each of the three is rated on a scale of 1-10. Ratings are based on data where available, otherwise staff estimate the value based on their experience. The 3 ratings are multiplied to generate a risk priority number and are ranked highest to lowest. The highest score areas should be considered first for solutions.

Sixes boxes - Six Boxes is a way of understanding the different ways that behavior can be influenced. For example; to help staff better perform their job, would training, a bonus, or a coach work best? Improving human performance is better addressed when the whole picture of influences is understood. Potential influences are categorized into;

1. Expectations and feedback.
2. Tools and resources.
3. Consequences and incentives.
4. Skills and knowledge.
5. Selection and assignment.
6. Motives and preference.

We used this information along with the FMEA analysis to decide to have equipment operators track specific types of errors in the part of the process that generated the most scrap. Expectations and feedback are one of the most powerful influences that management can provide. The intent is that daily feedback on errors will help equipment operators reduce the errors and therefore scrap produced.

Marketing videos.

Several months ago, the L&G partners decided to use visual media to help describe the benefits of and results from our lean and environment projects. Two of the companies agreed to filming videos with us and those videos were completed.

Ecology nominated the AccraFab video for a National Pollution Prevention Roundtable multimedia award and the video won an award. Formal celebration was held September 19th in Washington, DC. <http://www.p2.org/wp-content/uploads/2012-mvp2-award-recipients.pdf>

The second video is on hold. Between the completion of filming and the release of the video the plant manager changed. When shown the completed video, the manager, not being involved with or familiar with the work, did not support the release. Impact Washington staff will approach the manager again when the manager has been in their position longer and has more experience with Lean. Impact Washington and the manager will meet in November to re-view the video and address any concerns.

Part 3 – Projection of Activities, Accomplishments, and Major Expenditures for Next Quarter Report

1. Continue marketing for projects.
2. Gather 3 month results from Heath Tecna.
3. Pursue a 4th video showcasing the Heath Tecna project.

4. Give L&G presentation to Western Washington University, Manufacturing and Supply Chain management college class near Heath Tecna.
5. Visit facility referred by Heath Tecna staff. The Lean expert at the facility worked previously at another Washington facility. Initial visit scheduled for October 24th.

Part 4 – Financial Report

See Donna Allen's budget report – separate Excel file. This budget report is for expenditures through 9/30/2012. (NOTE: This is not attached to this report due to it being confidential business information.)