

US EPA ARCHIVE DOCUMENT

**Part 1 Synopsis of Accomplishments during the Reporting Period**

Projected Activities from Last Quarterly Report

1. Complete Heath Tecna success story, post it on Ecology's web site, and apply to Sustainable Plant or other venue to get broader publication.
2. Continue marketing for projects, e.g. Franciscan Health System, Linear Technologies.
3. Contact 2 – 4 more Lean consultants.
4. Continue work on drafts of final report and memo.

Actual activities

June	Heath Tecna estimated they will save \$125,000 per year through assessing and reducing environmental wastes as part of their Lean manufacturing. The company reduced: dangerous waste generation by 18,000 pounds per year, use of toxic materials by 400 pounds per year, solid waste by one ton per year, and water consumption by 10,000 gallons per day.  The success story is going thru final edits and should be posted by mid-August.
April - June	Franciscan Health Care has elected not to participate at this time due to a system wide upgrade in electronic medical record keeping. They may reconsider in November when the medical record project is complete.
June	Ecology approached Olympic Medical Center in Gig Harbor, Washington. They are interested and have asked for a written proposal. A proposal to reduce lab chemicals and improve pharmaceutical waste management will be drafted and delivered to them in July.
May	Contacted Strategica, Carlos Venegas, and Jeff McAuliffe to discuss use of L&E as part of their Lean consulting. They all work on office processes. None work in manufacturing production Lean.
April	Ecology proposes both a short technical report and a PowerPoint or other presentation to share lessons learned from this L&E project. A memo concerning the EPA Lean Toolkit will also be drafted. Ross Strategic prepared a draft outline for the technical report using the primary lessons learned from last quarter's report.

## Part 2 – Narrative Discussion

### Marketing Status

- Franciscan: The company's upper management decided that all projects other than the conversion to electronic records will be put on hold until that system is installed. Ecology will contact them again in November.
- Linear Technologies: we contacted the company in May and got no response from them. We will assume they are no longer interested unless they contact us.
- After learning that Franciscan is on hold, we contacted another hospital to explore the possibility of working with them on pharmaceutical wastes and lab chemicals. Olympic Medical Center indicated an interest and requested a formal written proposal. That will be developed and sent to the Center in July.
- Lean consultants – We contacted Strategica, Carlos Venegas, and Jeff McAuliffe in May. All three work only on office Lean. It's unlikely that this type of work would have the environmental savings possible in Lean production efforts.
  - ✓ Bill Kluck NW Lean listserv – no response to two inquiries
  - ✓ Tokusaku Consulting - office Lean only
  - ✓ Strategica – office Lean only
  - ✓ Carlos Venegas – office Lean only
  - ✓ Jeff McAuliffe - office Lean only

We'll move on and contact other firms.

- Northwest High Performance Enterprise Consortium
- Kaizen Institute
- Gemba Consulting North America
- Shingijutsu Global Consulting USA

### Lessons Learned

- 1) As with previous projects, we are reminded that it can be difficult to find companies meeting the criteria for this L&G project:
  - Company business needs can be addressed by Lean and Green.
  - Other business priorities still leave capacity for staff to spend time on an "extra" project.
  - Upper management willing to commit funding.
  - Upper management are open to working with staff from a regulatory agency.

Still, when we do find companies meeting these criteria, the work produces both business and environmental results, and can introduce more companies to the technical assistance component of environmental regulatory agencies.

- 2) Not all Lean consultants work in the manufacturing sectors. The ones we've contacted to date work only on office or paperwork projects.

### Final Report

Outlines are attached at the end of this report. We intent to have the consultant write a first draft in August. Additional ideas or input from our funders is requested and welcome!

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

1. Post final Heath Tecna success story
2. Get a final decision from Olympic Medical Center
3. Contact 2 – 4 more Lean consultants.
4. Complete full drafts of final report and Toolkit memo.
5. Contact other health care organizations if Olympic Medical does not move forward.

### Part 4 – Financial Report

See Donna Allen's budget report – separate Excel file. This budget report is for expenditures through 6/30/2013.

### Draft Outlines for Washington Lean and Green Project Final Deliverables, 4/26/13

#### Summary Report

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##### Overview

- Audience: Ecology management, EPA sponsors, MEP management and practitioners, P2 technical assistance providers, and others interested
- Purpose/Scope: Summarize overall project results from the program over the grant period, including the case studies developed by PPRC/Ecology
- Format: Presentation Slides
- Reviews: Facilities, Impact Washington, Ecology, and PPRC
- Original Deadlines: 4/30 Draft, 9/30 Final (2011, then 2012)

##### Draft Outline

###### A. Introduction

1. Goals & Objectives of the Lean and Green Program
2. Structure – Roles of Key Players (ECY, IW, and other assistance providers called in when needed – energy, Lean-Environment, PPRC)
3. What Has Changed Since Phase 1 of Lean & Green in Washington?
  - o No longer “testing” lean & green concept, now evolving services to develop long-term program
  - o Project funding / support
  - o Economic climate

###### B. Activities and Accomplishments (or Projects and Results)

1. Overview of key activities during grant period
  - a. 6 facility projects (maybe mention # lean events/projects supported, too)
  - b. Marketing (including videos)
  - c. Cross-training and partnership development (or something like that)

[Note: could potentially show the activities on a timeline, although I may not have all the info to do that currently and I'm not sure the message it would show]
2. Summary of results across all projects (table)
3. Lean and Green Case Studies (each with photo, project scope – e.g., energy kaizen, and key results/highlights)
  - a. Accra-Fab
  - b. Decagon

- c. Dolco
- d. Heath Tecna
- e. Karcher
- f. SunOpta

**[How much detail do we want here? E.g., try to fit high-level info on 1 or 2 slides per facility, or something else?]**

C. Lessons (Bullet points / observations, supplemented with project examples where appropriate)

1. Lessons about Lean & Green Integration Tools & Strategies
2. Lessons about Assistance Provider and Facility Relationships
3. Marketing and Sales Lessons
4. Other Lessons and Recommendations

D. Recommendations and Next Steps – for WA and other similar programs **[Note: Still figuring this out]**

1. Summary – WA program has matured, staff have developed/expanded skills and relationships, have tried different levels/types of engagement with facilities, but have been challenged by the overall economic climate. Projects are a hard sell and can involve significant time investment. **[What does this imply for the future?]**
2. Possibly capture some cross-cutting themes here (although may be in the lessons section) – like lean & green projects are greater than the sum of their parts; it's important to have flexible approaches to meet the specific needs of the situation; the process and awareness of lean & green concepts are often more important than the specific tools used; etc.

## Evaluation Memo

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### Overview

- Audience: EPA sponsors, users of EPA's Lean and environment toolkits and related publications
- Purpose/Scope: Summarize potential enhancements or additions to EPA's Lean Toolkits and other publications based on the experiences and results of the Lean and Green Assistance Program
- Format: Memorandum (as in scope of work) **[Does it make sense to do this in presentation format instead?]**
- Reviews: Ecology, PPRC (not specified in scope of work)
- Original Deadlines: 6/30 Draft, 9/30 Final (2011, then 2012)

### Draft Outline

#### A. Introduction

1. Purpose of memo
2. Brief description of WA Lean and Green Program
3. Reference summary of program results and activities in final report/presentation

#### B. Relationship of WA Lean and Green Program and EPA's Lean Toolkits

1. Program is based on concepts in toolkits
2. Specific ideas and tools from the toolkits were used in the projects (e.g., adding environmental metrics to VSMS), although the toolkits themselves weren't necessarily used as a resource for those activities

3. Many of the lessons from the WA L&G program relate to assistance providers – building on the advice in EPA's *Lean & Six Sigma Guide for Environmental Professionals*
  4. The WA projects also provide examples and new ideas for the overall L&E toolkit and the media-specific toolkits (energy/water/chemicals)
- C. Potential Enhancements and Additions to EPA's Lean Publications
1. Assistance Provider Lessons and Recommendations
    - a. Refer to the lessons in the summary report presentation
    - b. I think these could be added to EPA's *Lean & Six Sigma Guide for Environmental Professionals*; however, it may be better to create a shorter "tip sheet" or other publication that summarizes guidance for assistance providers – that would make it more accessible to MEPs as well.
  2. Lean and Green Integration Strategies
    - a. Overall – the WA experience illustrates that there are many ways to do lean & green; there are "variations" on strategies/tools in toolkits (e.g., different ways to bring green into kaizens and VSMS), new tools and processes used not mentioned in toolkits, and important cultural/organizational strategies (e.g., kaizen red vests)
    - b. Organize these based on the toolkit they might apply to (e.g., water-related items for Lean & Water Toolkit) – most will probably pertain to the Lean & Environment Toolkit and/or the Environmental Professional's Guide
    - c. Potentially suggest including assistance provider tips in the other toolkits, such as in the environmental waste section – mention that it can be helpful to frame this in other terms for facility operations managers (reduced production variability, improved product quality, etc.).
  3. Case Studies and Results
    - a. New links on the EPA case study page, and can integrate other case study boxes in the toolkits