



# Lean 6-Sigma Green Belt Project



## *DEPARTMENT OF TOXIC SUBSTANCES CONTROL*

***WAYNE LORENTZEN***  
(Project Greenbelt)

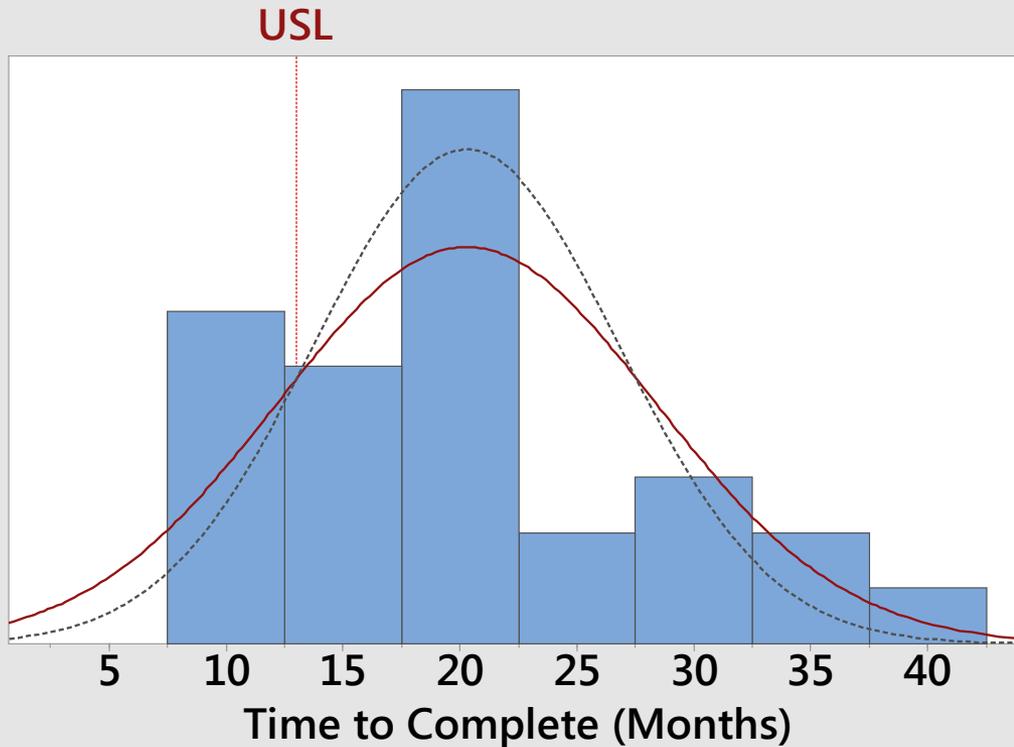
***TERRI HARDY***  
(Project Champion)

# *Reduction of Technical Review Processing Time*

- ❖ **Problem Statement:** DTSC permit decisions are not made on a timely basis, causing uncertainty and dissatisfaction for stakeholders and a backlog of facilities operating on a continued status. We will focus on the technical review portion of the process which is a significant contributor to the overall permit processing time.
- ❖ **Objective:** To reduce the technical review time so that 90 percent of all technical reviews will be processed within 13 months.
- ❖ **Project Team:**
  - ❖ *Rizgar Ghazi – Process Owner*
  - ❖ *Peter Bailey – Landfills Permitting Lead*

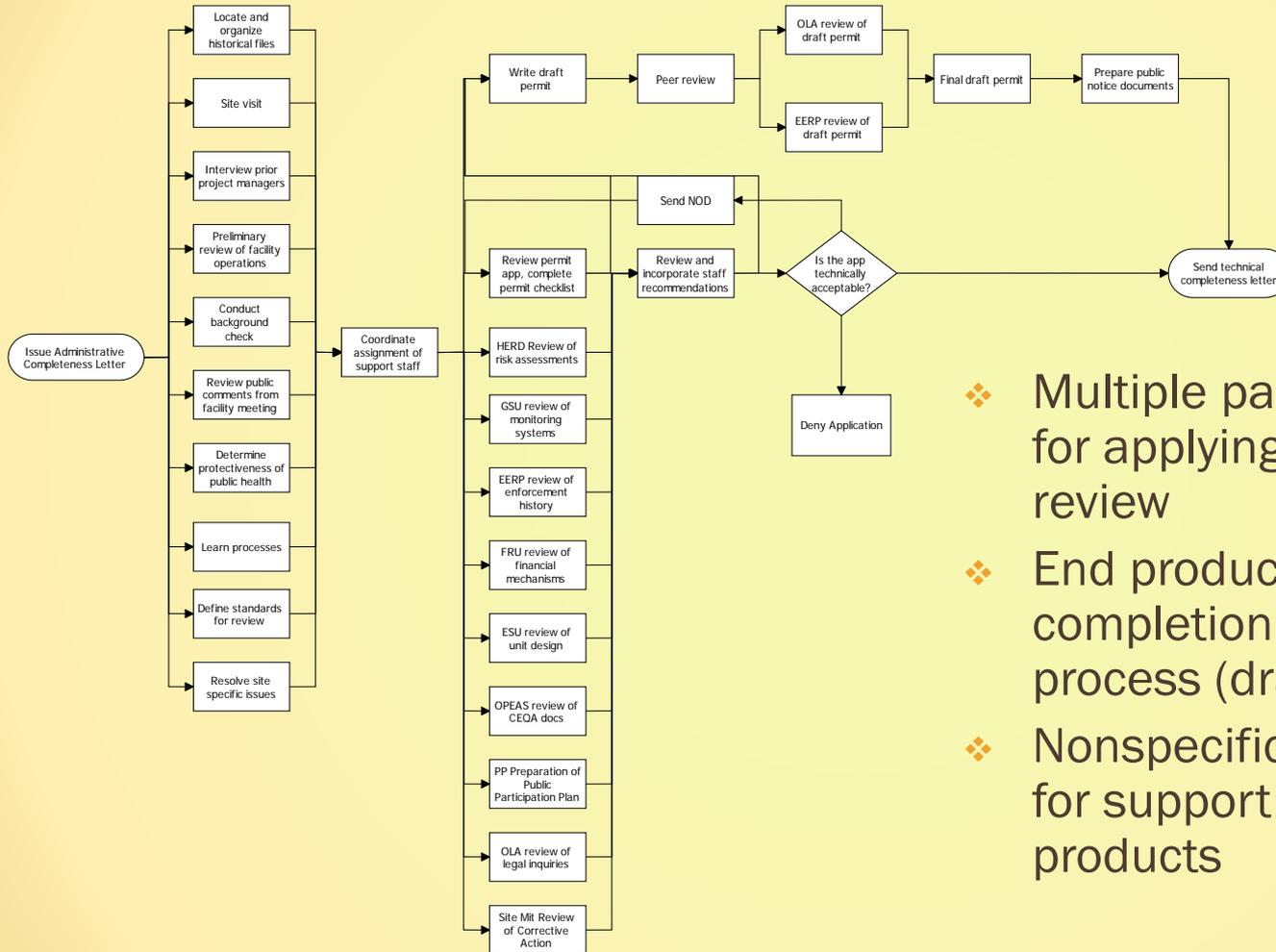


# Baseline Capability



- ❖ Current Average – 20 months
- ❖ Current Maximum – 38 months
- ❖ Percent within Goal – 20%

# Process Map



- ❖ Multiple parallel processes for applying standards for review
- ❖ End product delayed for completion of subsequent process (draft permit)
- ❖ Nonspecific expectations for support staff work products

# *Analysis Tools*

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- ❖ Process Map
- ❖ Fishbone Diagram
- ❖ FMEA
- ❖ Time Maps
- ❖ Pareto Charts
- ❖ Hypothesis Testing (One Way ANOVA)
- ❖ Dotplot
- ❖ Capability Analysis



# *Key Analytical Finding 1*

- ❖ Existing permit review checklist underutilized
- ❖ Most significant risks for delayed review (FMEA) correspond with inadequate application of existing checklist
- ❖ Review of revised applications often take longer than the initial review
- ❖ Review of permit application and subsequent revised applications accounts for 20% of hours used
- ❖ Completion of technical review is directly dependent on number of permit review checklist standards completed



# *Key Analytical Finding 2*

- ❖ 60% of labor hours spent on non-value added activities
- ❖ 16% of total labor hours spent on drafting a permit
- ❖ 10% of total labor hours spent preparing public notice documents
- ❖ Overall, drafting permit and preparing public notice documents accounts for 60% of process time (start to finish)
- ❖ Completion of technical review is delayed by draft permit activities



# *Critical x's*

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- ❖ Knowledge of Standards for Review
- ❖ Knowledge of applicable regulations
- ❖ Permit application checklist items
- ❖ Reference Files
- ❖ Guidance Documents
- ❖ Permit Writers Instructions
- ❖ SOPs
- ❖ Mailing List
- ❖ Work Requests

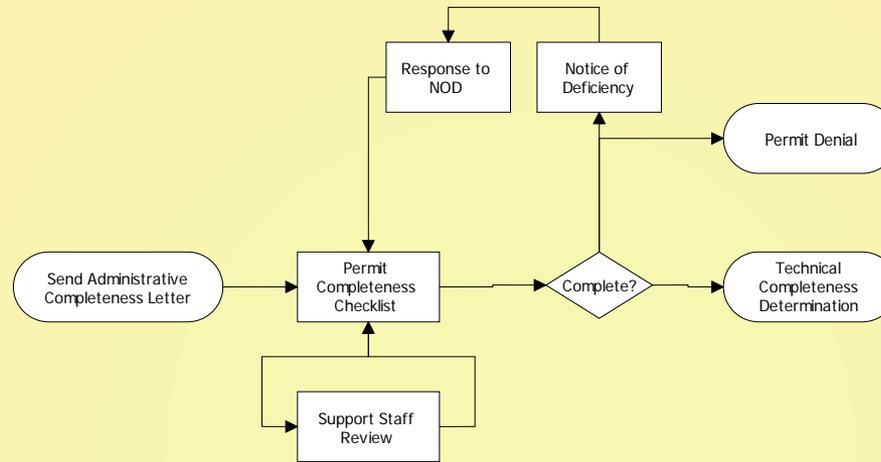


# *Improvement Techniques*

- ❖ Simplify process by removing draft permit and public noticing activities
- ❖ Focus review process on existing permit application checklist
- ❖ Refine support staff work requests by requesting more detailed instructions for review
- ❖ Training – Regulations, permitting guidance documents and writing notices of deficiency
- ❖ Revise permitting guidance documents on how to review applications
- ❖ Confirm support staff mailing of public notices
- ❖ Automated alerts of potential delays in processing time
- ❖ Audits of permitting controls by checking implementation of improvements

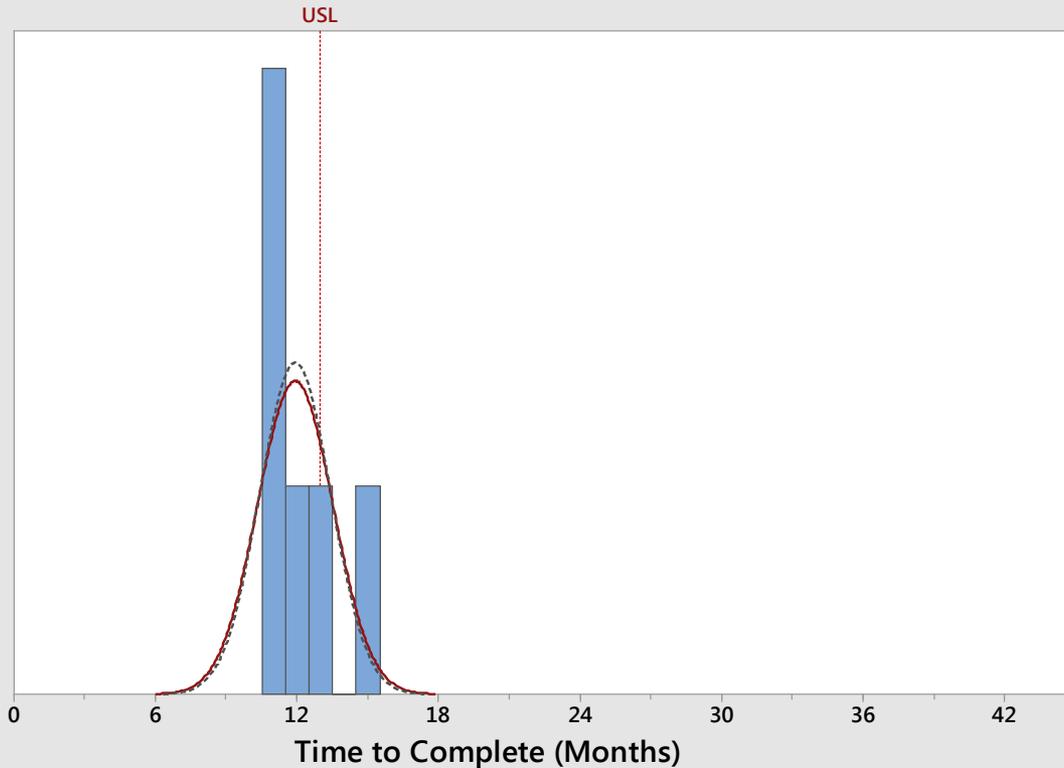


# New Process Map



- ❖ Eliminated draft permit and public noticing activities
- ❖ Simplified technical review scope to follow an existing permit application checklist
- ❖ Replaced educational processes with existing permit application checklist
- ❖ Replaced reviews from multiple support staff of the permit application with more refined and specific reviews
- ❖ Simplified technical completeness determination criteria using existing permit application checklist

# Projected Capability Analysis



- ❖ Expected average = 12 months
- ❖ Expected percent within goal - 90%

# *Control Plan*

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- ❖ Early warnings for permits trending off schedule
- ❖ Automated progress tracking with digital checklist
- ❖ Quarterly internal audits
- ❖ Continuous improvement plan to include future automation and potential mistake proofing



# *Additional Benefits*

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- ❖ More satisfied customers
- ❖ Data driven perspective of process removes tendency to arbitrarily select the focus of improvement
- ❖ Spreading idea of LSS to other areas of the Department
- ❖ Analysis of data has highlighted other processes for improvement



# *Contact Information*

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