

Lean Process Efficiency for Permit Writing

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OCTOBER 6, 2016

What is Lean?

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- ❖ Lean is a set of **principles** and **method** of identifying and **eliminating waste** in a work process, resulting in producing a **quality** product in **less time**
- ❖ It fosters a culture of **continuous improvement** across all levels of an organization
- ❖ A known and proven process that empowers staff
- ❖ It is a method to simplify processes so that a **product moves** through the process **faster**.

Lean Quotes

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- ❖ Everything can be improved. ~Clarence W. Barron
- ❖ If you do not know how to ask the right question, you discover nothing. ~W. Edwards Deming
- ❖ Lean is not a method to get people to work faster. It is a method to simplify work so that people can make work move faster. ~Unknown
- ❖ An environment where people have to think brings with it wisdom, and this wisdom brings with it kaizen [continuous improvement]. ~Teruyuki Minoura

KaiZen

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- ❖ Kai – To modify, to change
- ❖ Zen – Good, better

- ❖ KaiZen

- Make it easier by studying it and make the improvement through elimination of waste.

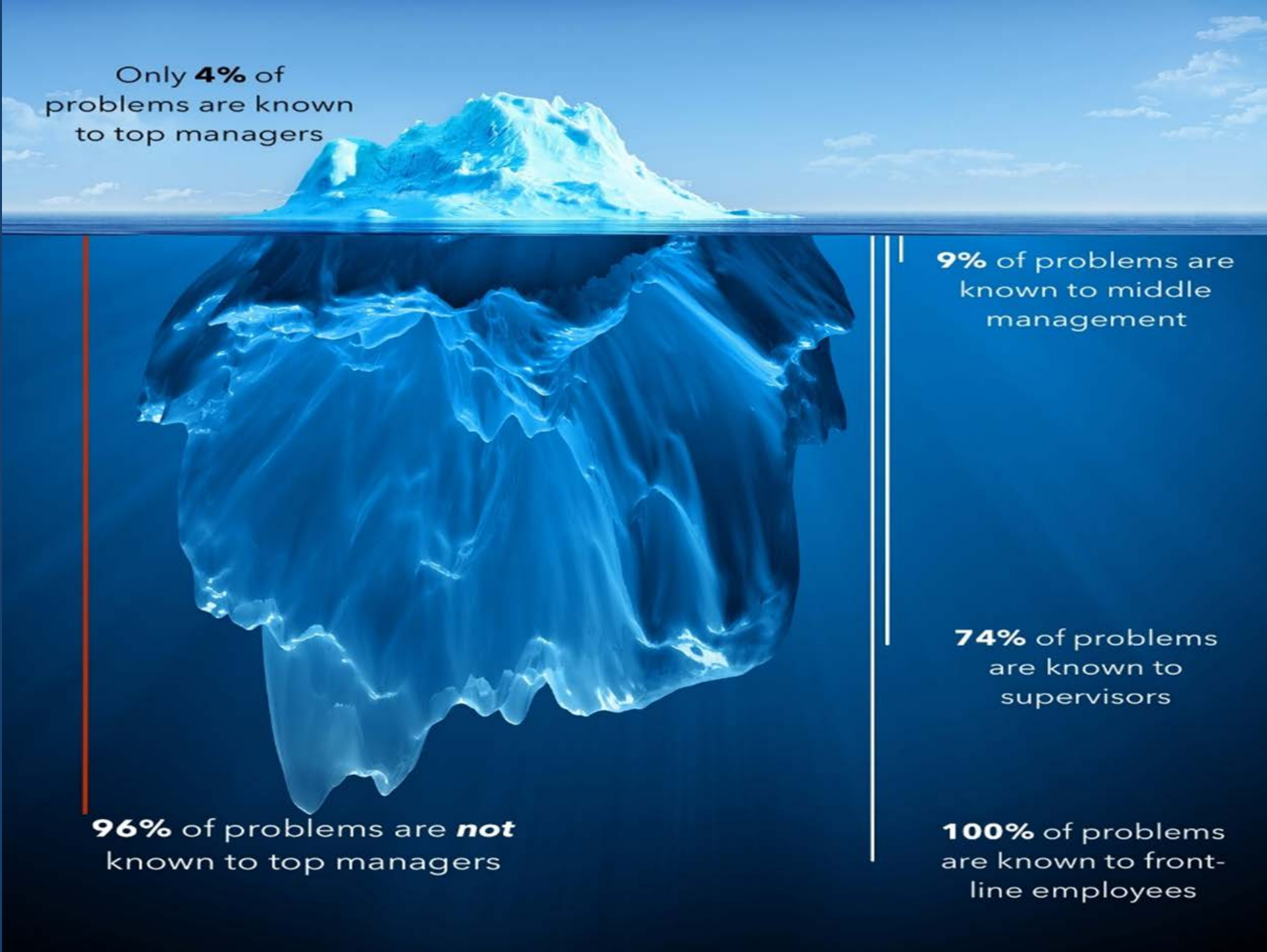


“The organized use of common sense to improve cost, quality, delivery, and responsiveness to customer needs.”

Benefits to ADEC Team

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- ❖ Process improvement is well defined with Lean Principles
- ❖ Empowerment of ADEC team
 - Motivation
 - Liberates hidden talents and capacities
 - All inclusive
 - Equal voice
 - Active engagement



Only **4%** of
problems are known
to top managers

The image features a large iceberg floating in a blue ocean under a clear sky. The small tip of the iceberg is above the water line, while the vast, jagged bulk of the iceberg is submerged. A horizontal line marks the water's surface. To the left of the submerged part, a vertical red line extends from the water line down to the bottom text. To the right, a vertical white line extends from the water line down to the bottom text. The text is arranged around the iceberg to illustrate the concept of 'visible' vs. 'invisible' problems in an organization.

9% of problems are
known to middle
management

74% of problems
are known to
supervisors

96% of problems are **not**
known to top managers

100% of problems
are known to front-
line employees

Value Stream Mapping (VSM) ⁷

❖ The VALUE STREAM

- o entire set of processes or activities performed to transform the products and services into what is required by the customer.

What to consider when you are ready 8

- ❖ Who is the customer?
- ❖ Where is your pain?
- ❖ What are the steps in the process in detail?
- ❖ What is your role in the process?
- ❖ What are your frustrations about the process?
- ❖ What suggestions do you have for improving the process?
- ❖ Collect data for your kaizen!

AQ Lean Kaizen Event

JANUARY 24 – 29, 2016

AQ Lean Team

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There are distinct roles for the Lean Team

- ❖ The Sponsor
 - Has authority to make Lean happen
- ❖ Sustaining Sponsor
 - Responsible for ensuring the continuing implementation of Lean
- ❖ Team Leader
 - Responsible for the outcome of the Kaizen Event
- ❖ Lean Facilitator
 - Coaches team members on how to apply Lean
- ❖ Project Manager
 - Responsible for assigning specific tasks to individuals or sub-teams
- ❖ Team Members
 - Responsible for bringing to the fore their experience, talents, and wisdom

First step of the Lean Process is to develop a Charter...

Lean Charter

- ❖ Identify Priorities
- ❖ Minimize inefficiency
- ❖ Identify Barriers to Quality
- ❖ Generate Quality Metrics
- ❖ Improved Communications
- ❖ Boundaries-Keep In Scope!
- ❖ Timeline
- ❖ Target- Over arching goal
 - Reduce permit processing time

 Alaska Department of Environmental Conservation Division of Air Quality Lean Charter 	
Background	Why a Priority The Division of Air Quality expends considerable time and resources processing permit applications. Developing Alaska's resources is a priority to the Governor's office. Minimizing time spent processing permit applications expedites development projects.
	Barriers to Quality Lack of Consistency for Permits Permits Processed from Separate Offices
Targets	Overarching Goal Reducing minor permit processing times from complete application submittal to public notice (for 85% of normal permitting process, not the 15% of special cases). Document permit application process and develop standardized system for reducing staff time disruption. Generate quality metrics. Improve communication between DQC staff and applicant to ensure a two-way feedback loop in a timely and effective manner. Minimize inefficiency/redundancy in reporting and records retention requirements.
	Quantitative Metrics Reduce median time spent on unbilled projects. Reduce pages of paper used by 15% via electronic filing. Reduce exchange of hands (# of times documents handled by each person). Reduce management time spent reviewing staff work. Reduce volume of material staff needs to review in permit applications. Reduce number of comments submitted by applicant during public notice. Better customer service (who are stakeholders, what do they want, internal vs. external service).
	Qualitative Metrics Decision making consistency in content and format between permit writers in both Anchorage and Juneau offices. Ensure continued compliance with state and federal regulations. Improve quality of permit documents by making them more consistent.
	Document the Following Standard work processes. Communication processes (e.g. two-way feedback, timely) (internal and with regulated community). Data collected pre and post Kaizen event/new process. Dispute/issue resolution criteria (internal and external). Quick, low cost to no-cost IT solutions.
	Includes Minor Permits with and without modeling. From submittal of permit application to public notice. Technical Analysis Report.
Boundaries (Scope)	Potentially Technical Policies? TV Permits?
	Excludes Post permit issuance technical assistance. Informal Review Process. Adjudicatory Appeal Process. Compliance Inspection, Planning and Execution. Standard permit conditions and regulations. PSD Permits. Controversial Permits. DRI's and PART's.
Timeline	Kick-off Interviews with Permit Writers. EPA Presentation.
	Kaizen Event Introduction. Current Value Stream Mapping (Title I). Future Value Stream Mapping (Title I). Current Value Stream Mapping (Title V).
	Complete Action Items Weekly Stand-up Meetings. 40-day Check-In Meeting. 60-day Check-In Meeting. 90-day Report-Out Meeting.

❖ Background

- The Division of Air Quality expends considerable time and resources processing permit applications and filing reported documents. The process contains inefficiencies and all processes have room for improvement.
- Developing the State's resources is a priority to the Governor's office and minimizing time spent processing air permit applications expedites this development.
- Protect Air Quality

❖ Boundary/Scope

- Minor Permit Application receipt to public comment
- What is Excluded

The Event – Important Terms

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❖ Who is the Customer?

- Public
- Permittee
- Program Manager
- The next person in the process

❖ Who are the Stakeholders?

- Legislature
- Consultants, NGOs, Media

What is Value Added

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- ❖ Customer Cares
- ❖ Done Right the First Time
- ❖ Thing Physically Changes

- ❖ Government/Business value added
 - Statutory
 - Regulatory
 - Administrative Requirements
 - Internal Policy

Sticky Note Legend

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Process

Steps

Hand Offs

Wait Time

Database

Cycle Time
(Lead Time)

First Pass Yield

Action
Items

Ideas

Suggestions

Solutions

Questions

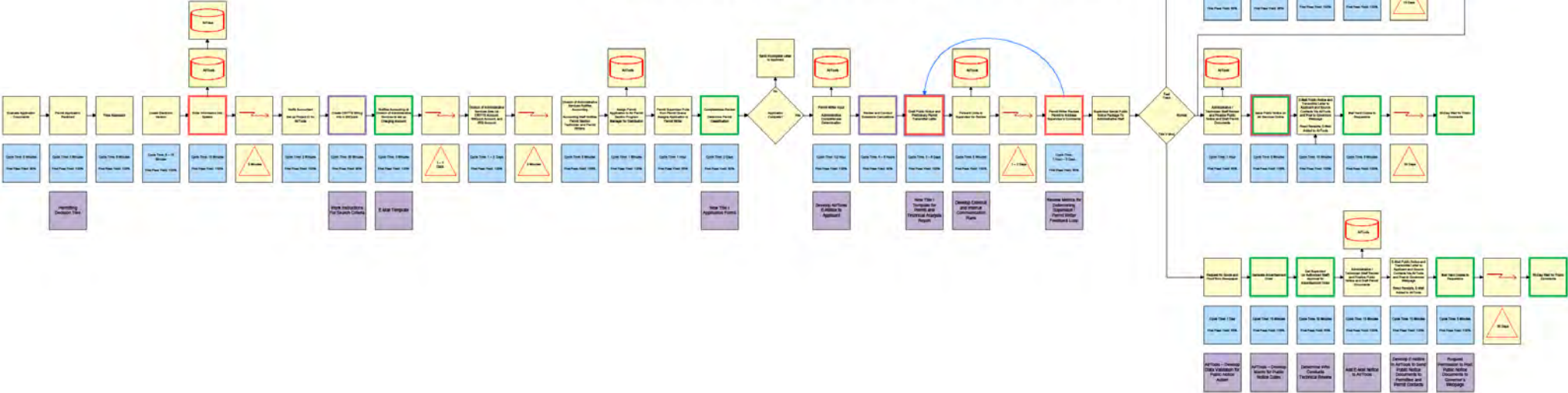
Challenges

Problems

Value Stream Map – Title I Permit Process (Current State)



Value Stream Map – Title I Permit Process (Future State)



Legend



Results

	Current State		Future State		Results	
	Fast End	Slow End	Fast End	Slow End	Fast End	Slow End
Total Process Time	11 Days, 1 Hour	44 Days, 5 Hours	9 Days, 2 Hours	37 Days, 2 Hours	13%	14.8%
Wait Time	8 Days, 8 Hours	35 Days, 3 Hours	8 Days, 3 Hours	35 Days, 3 Hours	53%	9.3%
Cycle Lead	7 Days, 3 Hours	19 Days, 2 Hours	7 Days, 3 Hours	14 Days, 3 Hours	-2% (Red)	24%
First Pass Yield (on-week line)	8.8%	1.8%	40%	-	-50% (Improvement)	-

Kaizen Event – Lean Action Items

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❖ BillQuick/CRITTS/IRIS Project Setup

- BillQuick/CRITTS Work Instruction
- BillQuick project setup e-mail form
- DEC IRIS Accounting Request

❖ AirTools Lean Enhancements

- E-notice to applicant
- Data Validation
- Develop Macro dates
- Develop e-notice to contacts
- Add e-mail notice

Kaizen Event – Lean Action Items

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- ❖ Title I Permit and Technical Analysis Report Template
 - Owner Requested Limits Template
 - Title V Template
- ❖ Review Metrics
- ❖ Public Notice Process
 - Commissioner's Office
 - Newspaper deadline
 - Newspaper distribution

Kaizen Event – Lean Action Items

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- ❖ Applicant Decision Tree
- ❖ Revised Minor Permit Application Forms
 - 5 Application Forms
 - Completeness Determination
 - Incompleteness Letter
- ❖ External Communication Plan
 - Permittee Workshop
 - DEC Lean Outreach

Typical Lean Event Current State Stats

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	ADEC Title I Process		Typical Lean Events Current States
	Slow End	Fast End	
Cycle (Lead) Time	43%	66%	15%
Wait Time	57%	34%	85%
First Pass Yield	1.5%	8.8%	<2%

Value Stream Map Current State Stats

	Slow End	Fast End
Total Process Time (Business Days)	44 Days, 5 Hours	11 Days, 1 Hour
Wait Time	25 Days, 3 Hours	3 Days, 6 Hours
Cycle (Lead) Time	19 Days, 2 Hours	7 Days, 3 Hours
First Pass Yield (re-work free process)	1.5%	8.8%

Value Stream Map Future State Stats

	Current State		Future State		Savings	
	Fast End	Slow End	Fast End	Slow End	Fast End	Slow End
Total Process Time	11 Days, 1 Hour	44 Days, 5 Hours	9 Days, 5 Hours	37 Days, 2 Hours	13%	16.5%
Wait Time	3 Days, 6 Hours	25 Days, 3 Hours	2 Days	23 Days	53%	9.3%
Cycle (Lead) Time	7 Days, 3 Hours	19 Days, 2 Hours	7 Days, 5 Hours	14 Days, 2 Hours	- 3% (loss)	26%
FPY (re-work free)	8.8%	1.5%	40%		~ 30% (improvement)	

How do we measure success?

❖ Metrics to Evaluate Lean Process

- Percent of Title I permits that take less than 130 days
- (days from complete application to issuance excluding hold times)
- Days from receiving complete application to public notice
- Days permits spend on hold waiting for additional information

❖ Quality Measures

- Percentage of permits that remain unchanged due to public comments

AQ Lean – Post Kaizen Steps

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❖ Regular Check-ins

- Weekly Stand-up Meeting-Quick updates !
- 30, 60, 90-Day Check-in

❖ Action Items:

- Standardize Permit Templates w/TAR
- Revised Application forms/process
- Decision tree
- Air tools and e-notice
- Streamline public notice process

❖ Communication Plan

- Communicate results and new process to customers and stakeholders

Air Quality Contacts

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- ❖ Tom Turner – Technical Services
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- ❖ Aaron Simpson – Air Permitting
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Questions & Answers

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- ❖ Waste is a tax on the whole people. ~Albert W. Atwood
- ❖ A bad system will beat a good person every time. ~W. Edwards Deming
- ❖ The world we have created is a product of our thinking; it cannot be changed without changing our thinking. ~Albert Einstein
- ❖ If you need a new process and don't install it, you pay for it without getting it. ~Ken Stork