

EPA Lean Management System

STATE EPA LEAN WORKGROUP 8/27/2020

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Agenda

I. ELMS Overview

II. Difference between ELMS

& Lean

III. Basic components of ELMS

IV. Region 1 ELMS
Adaptation to Telework





Presentation Objectives

Participants to leave with an understanding of:

- What ELMS Is
- The Benefits of ELMS
- The Connection Between Lean and ELMS
- ELMS Deployment in Region 1



Definition of Terms



•Gemba Walk: A leader or a small team walks the process to see the work firsthand, ask questions, and problem-solve with employees.



•Fishbone Diagram: A root cause analysis tool designed to systematically identify and categorize a potential list of causes for a known problem.



•5 Whys: A problem solving technique that uses inquiry to identify a root cause of a problem.



•A3: A structured problem solving methodology which is known for putting the information relative to the problem on a single piece of A3 sized paper (11×17).



 Kaizen Event: A structured 3-5 day event led by a facilitator in which a cross functional team maps out a process, identifies rapid improvements, and implements many changes real time.





What is ELMS?

A system that uses Lean principles and tools, paired with routine monitoring, measurement and engagement to identify problems, solve problems and sustain improvements.

EPA LEAN MANAGEMENT SYSTEM (ELMS)



ELMS in a Nutshell...

See problems fast
Solve problems fast &
Sustain improvements



ELMS is Not...

A Kaizen or Lean event
 A project
 A Gotcha! (Wall of Shame)
 Completely new



Goal and Benefits of ELMS

ELMS deployed in 80% of EPA by 2020

Visual Management

Develop and Track Measures

Engage in Problem Solving

Participate in 15-minute weekly Huddles

Enhance Work Environment

- Quickly see if work is on or off schedule
- Identify and monitor progress toward set targets; and manage workload distribution
- Track process-level metrics to help determine if your organization will meet long-term strategic goals
- Identify small problems before they become big problems
- Generate solutions to fix problems that cause pain
- Save time in meetings by using brief discussions (huddles) to talk with colleagues about the work; promote team building
- Determine who needs help; what issues require management intervention-A check in every week
- Breaks Down Silos
- Create and improve predictability for customers and staff
- Create a more transparent and accountable workplace



ELMS brings together team members from different offices to develop a shared understanding of the process

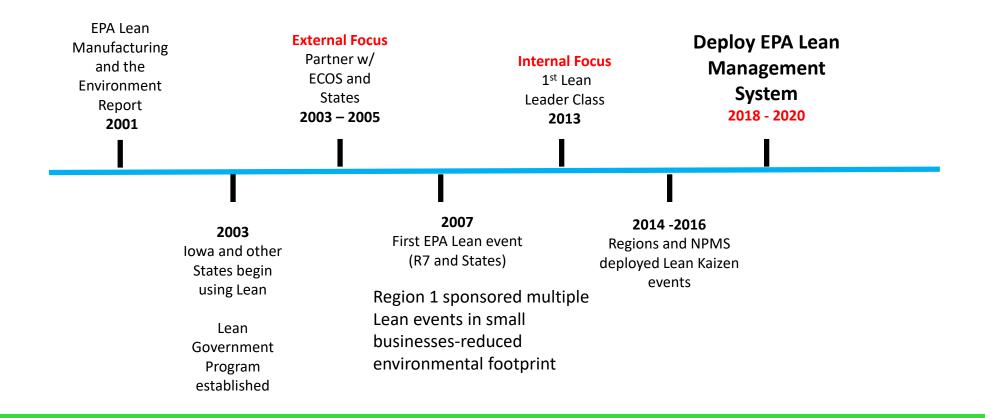


What Is Lean?

Lean is a set of principles and methods for identifying and eliminating waste (non-value-added activity) in any process.



Lean Journey at EPA





Lean at EPA: Teams and Networks

Office of Continuous Improvement (OCI)

 OCI coordinates agency-wide implementation of the Lean Management System (LMS). "Champions" in each NPM/Region help deploy the system.

Problem Solving Corps

 Staff from HQ and Regions trained to facilitate Lean problem solving activities within their respective organizations

Lean Community of Practice

 Network of Lean practitioners from across the agencymeet every month



The Connection Between Lean and ELMS?

Lean

- Project and tool-based
- Difficult to support sustained and/or continuous improvement-Implementation plans can fall apart
- Managers brought in at the end

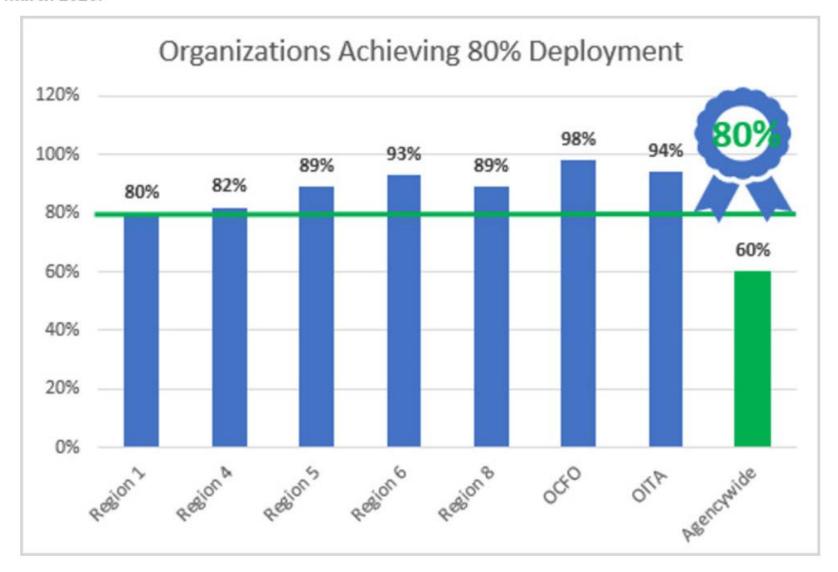
ELMS

- Utilizes Lean tools/philosophy
- Provides infrastructure for continuous improvement
- Integrates monitoring, measurement, problem solving, and standard work in a system
- Management Responsibilities-Process Owners





March 2020:



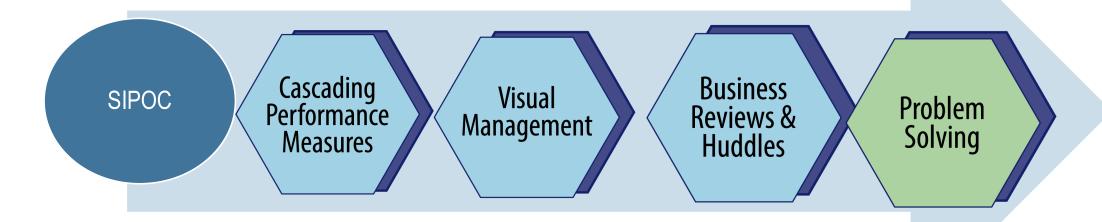


What does ELMS Deployment Look Like?

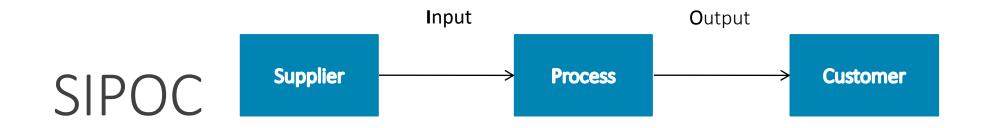


ELMS Deployment Road Map

We will understand the components of the process, use basic problem-solving to address challenges, identify measures to track and assess our performance, establish visual management, and utilize huddles to sustain our progress.







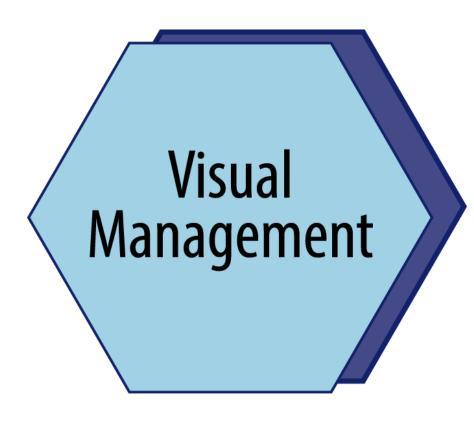


- SIPOC: Supplier, Input, Process,
 Output, Customer.
- A high-level visual representation of the process
- Used to provide a structured way to discuss the process and what's involved



		SIPOC					
S		P		0		C	
Suppliers	Inputs	Employee training request and supervisor approval		Outputs		Customers	
Employee	Training Docs	provides all required documents and filled out completed		Backup Docs		Preparer	
Preparer and		Preparer prepares form in Sales Force and notifies		Sale force doc &		Employee &	
Program Analyst	Training Docs	Form is routed to		Email		Kathy	
Preparer	Electronic Form	trainee to review and Submit Trainee submits		Electronic Training Form		Trainee	
Trainee	Signed electronic form	form to first-line and second-line supervisor		Training Form		1st line and 2nd line supervisors	
2nd-line supervisor	Signed electronic form	Form routes to the Finance Office for review of budget, funding, dates and method of payment		Training Form		FCO	
FCO	Signed electronic form	Finance routes to HR Office for review		Training Form		Training Officer	
HR	Signed Electronic form	HR sends official SF-182 and attachments to Finance (FCO, Kathy, RegFee) which is assigned to cardholder		Email with SF- 182 attached		FCO	
FCO	Funded SF-182	Cardholder logs purchase in their card log and seeks approval from approving official before processing payment	U.S. E	email and purchase card Y log	OFFIC	Cardholder, A.O. and Vendor	JULITED STATES

Visual Management



Visual management is a practical method for determining when everything is under control and for sending a warning the moment an abnormality arises¹

Flow Boards evaluate adherence to standard process and whether the process is flowing as expected

Performance Boards evaluate overall performance of process

- Metrics
- Continuous Improvement
- Celebration

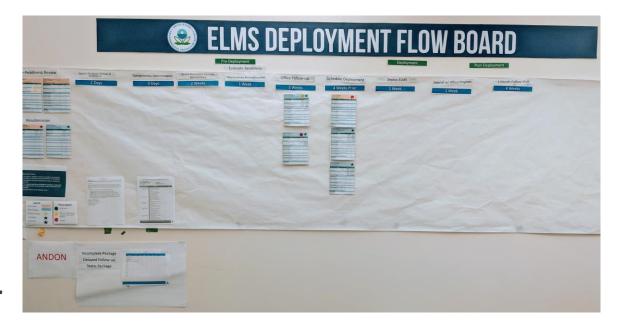


¹ Masaaki Imai, 1997, Gemba Kaizen

What is a Flow Board?

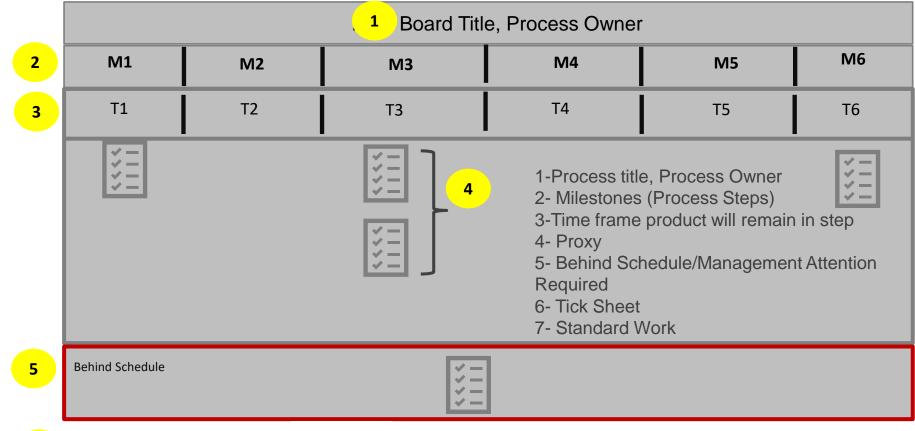
A visual simulation of the process and all of the work in progress.

The flow board is intended to provide visible indications of flow and to allow problem identification.





1st Generation Flow Board Elements









Standard Work



Each team member updates their proxy

The flow board is updated weekly by Tuesday 3:00 p.m.

Team will meet on s each metric calculated and who is responsible?

Product Proxy

Simulate Product Flow Using Proxy "Cards"

- **Include critical information** to track the progress of the product/output through the process.
- Keep the proxy simple but show regular movement through process!
- At a minimum include an individual identifier, milestones, a target date and an actual date for each milestone.

Unique Identifier:

Pertinent Information:

POC:

Milestone	Target Date	Actual Date
M1	6/4/18	6/4/18
M2	6/5/18	6/4/18
M3	6/14/18	6/12/18
M4	6/20/18	6/25/18
M5	7/2/18	7/6/18
M6		



Using Microsoft Planner as a Flow Board

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Accessing Microsoft Planner Without Using Teams	4
Adding Members to your Plan	5
Steps and Timeframes	6
Proxy Cards	7
Behind Schedule	9
Needs Management Attention	10



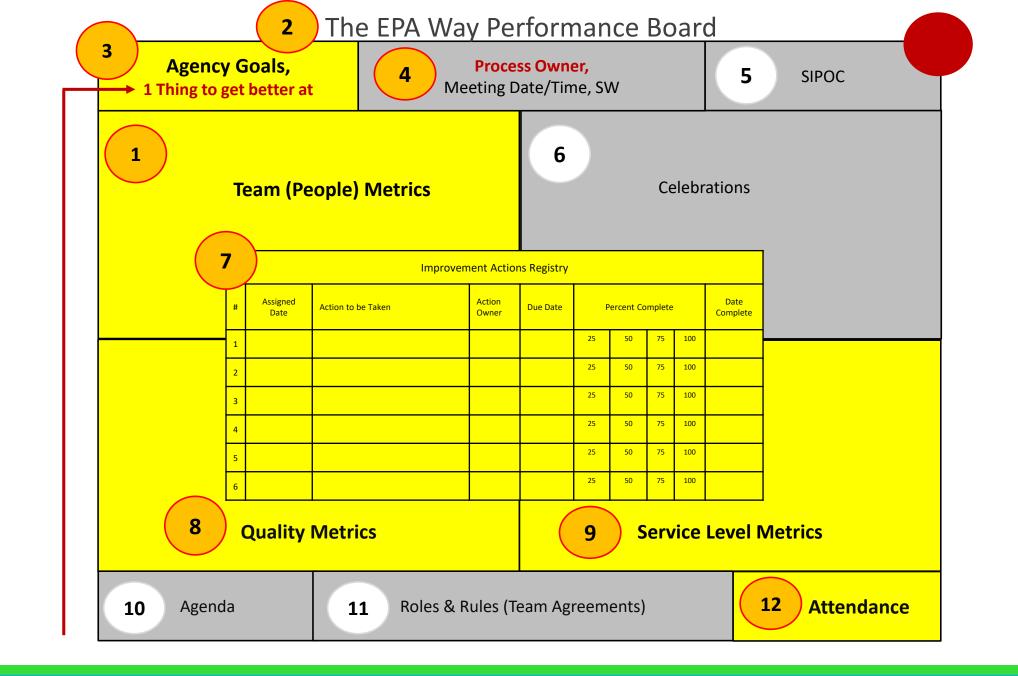
Planner

What is a Performance Board?

A visual management tool designed to keep everyone informed about how the process is performing against agreed upon targets and what actions are taken when performance is not meeting the targets.









Using Excel as a Performance Board

Performance Board

Use this template to create a mock up of the performance board for your process. After the training is complete, elements of the workbook can be used to develop your interim Performance Board.

Board Title One thing to get better at | Meeting Day, Process Owner SIPOC People Celebrations · Click to add text Response Time for Milestone 1

Use this template to develop a n

One thing to get be

Decrease response t Milestone 1 from 45 da days by June 20



Cascading Performance Measures



The entire management system is based upon:

- Setting performance targets
- Measuring results
- Closing the gaps between targets/results

Begins with measuring the right things and creating alignment at every level

Balanced Scorecard

- Customer value and
- Taxpayer return on investment (ROI)



Your Role

Administrator

Quarterly Business Reviews

•Strategic Measures •Reform Plan Projects

Revitalize Land & Prevent Contamination Ensure Safety of Chemicals in Marketplace Cooperative Federalism Enhance Shared Accountability Increase Transparency & Public Participation Compliance with the Law Create Consistency & Certainty Prioritize Robust Science Streamline & Modernize Improve Efficiency & Effectiveness Strategic Goals Strategic Objectives

improve Air Quality

National Program/Regional Office

Monthly Business Reviews

Bowling Charts ◆Countermeasures ◆Breakthroughs



Process Level/Work Units
Weekly Huddles

• Flow Boards • Performance Boards





Huddles



Huddles are regularly held, disciplined discussions of process performance. Intended to create accountability without blame

Establishes routine opportunities for:

- Engagement in the performance of the work
- Identifying opportunities for problem solving
- Up-leveling problems



Weekly Huddle: How Does it Work?

Purpose

Identify the previous week's work and issues, the current week's expectations, any issues affecting today's performance, team member concerns, etc.

Attendees

The Unit/Team

Timing

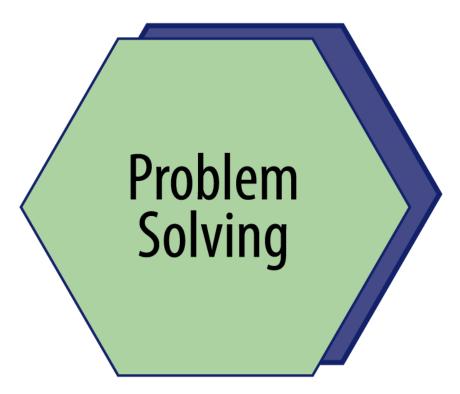
Weekly, 15 minutes in duration

In Practical Terms

- How was last week? (Update key measures and highlight problems or significant accomplishments)
- What do we need to do this week?
 - Who is working on what?
 - What key items are due?
- What help to we need to do it?
 - If we find something we can't do, can we adjust?



Problem-Solving



Once performance measure targets are established, problem solving are used to achieve and maintain them.

Basic problem solving for all of EPA

5 Whys and Fishbone Diagram

"A3" or "4 square" used for complex problems.



Grants Close Out Flow Board

process problem: Project
Officer Certifications
were coming in late –
making it challenging to
meet national metric.



Team held a Problem-Solving Exercise to develop plan to mitigate problem for the future.



BOX 1: PROJECT DEFINITION

1a. Problem Statement: Through their ELMS project on Grant Closeouts, the Region 1 Grants Office identified the step of receiving the Project Officer Closeout Certifications (PO Certs) as a problem. In FY 2019, 33 PO Certs (out of 138 PO Certs) were received after April 1st causing a backlog in grants closeouts and adding to the end of the fiscal year workload. As this issue exists across all media programs, attention from an Executive Sponsor will be needed to solve this problem.

1b. Goal: The goal of this project is to reduce PO certs received after April 1^{st} from 33 (out of 138) in FY 2019 to 24 or less (out of 152) in FY 2020, a reduction of at least 25%.

1c. Scope: The scope of this project will be from sending closeout deadline notification to R1 management to Grants receipt of PO Certification.

1d. Approval:_

Henry Darwin, Chief Operations Officer

BOX 2: ANALYSIS

What is the relevant data that shows there is a problem?

In FY 2019, 33 Project Officer Closeout Certifications (PO Certs) out of a total of 138 PO Certs were received late, after April 1. Late PO Certs delay the grant closeout process. A new grants system coming online makes it even more important that grants are closed out on time in FY 2020.

What problem solving tools were used to get to the root causes of the problem? Problem solving tools included:

- Building a problem-solving team of grant staff and project officers from across all Region 1 Divisions,
- Using a fishbone diagram and 5 whys to determine root cause,
- · Developing countermeasures.

Countermeasures:

Improved and regular communication to Project Officers including:

Send email from ARA to Managers and POs

Send outstanding PO Certs list **regularly** to POs and their managers

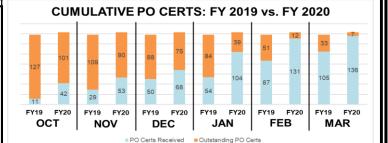
Visual Management including:

 A publicly displayed improvement action registry and coordinated ELMS Board that tracks PO Certs and Grants Closeouts

BOX 3: IMPROVEMENT ACTION REGISTRY

#	Assigned Date	Action to be Taken	Action Owner	Due Date	Percent Complete			Completed Date	
1	12/2/19	Introductory meeting	Cheryl Scott	12/19/1 9	25	50	75	100	12/19/19
2	12/19/19	Cross Office Meeting	Cheryl Scott	1/9/20	25	50	75	100	1/9/20
3	1/9/20	Team Problem Solving Session Prep	J. Ross/Monique Lloyd	1/14/20	25	50	75	100	1/10/20
4	1/9/20	Team Problem Solving Session (Held 2 Sessions – 1/14 and 1/21)	J. Ross/Monique Lloyd	1/31/20	25	50	75	100	1/21/20
5	1/21/20	Sample Email to Everyone on Late List	Bob Shewack	1/28/20	25	50	75	100	1/27/20
6	1/21/20	Update List of Outstanding PO Certs	Julie Ross	Weekly	25	50	75	100	Regularly
7	1/21/20	Email Approved by GPC (virtually)	Kristi Rea	2/10/20	25	50	75	100	1/28/20
8	1/21/20	List distributed to GPC	Brian Tocci	Weekly	25	50	75	100	Regularly
9	1/21/20	Check in Meeting	Linda Darveau	1/28/20	25	50	75	100	1/28/20
10	2/4/20	Check in Meeting	Julie Ross	2/4/20	25	50	75	100	2/4/20

BOX 4: RESULTS



GOAL: To have 24 PO certs outstanding at the end of Q3 (end of March). Last fiscal year, we had 33 outstanding. This fiscal year, we had only 7 outstanding at the end of March. This resulted in a **78.79% improvement**. On 7/21/2020 we received our last expected PO Cert for the fiscal year. We have 2 remaining PO Certs that we do not anticipate receiving PO Certs for due to legal issues.

BOX 5: STANDARD PROCESS & VISUAL MANAGEMENT

Tools developed:

- A publicly displayed improvement action registry and coordinated ELMS Board that tracks PO Certs and Grants Closeouts.
- Communication tools including emails sent from a high level and PO Cert lists shared with POs and managers got a wider variety of people informed and accountable in the closeout process

Greater communication and visual management resulted in far exceeding the goal set. The process developed by this A-3 Project will be followed in the future.

BOX 6: TEAM

Name:	Role:			
Art Johnson	Executive Sponsor			
Cheryl Scott	Process Owner			
Julie Ross/ Monique Lloyd	Project Leads			
Linda Darveau	Coach			

BOX 7: ISSUES

PO & Recipient Non-Response

-> Both addressed with manager intervention and communications

BOX 8: PROJECT MGMT

Day and time for regular update meeting:

Weekly, Wednesday at 2:00 PM

Regular updates due to project lead by:

COB Tuesdays.

External Cost for this project (if any):

BOX 9: PROGRESS

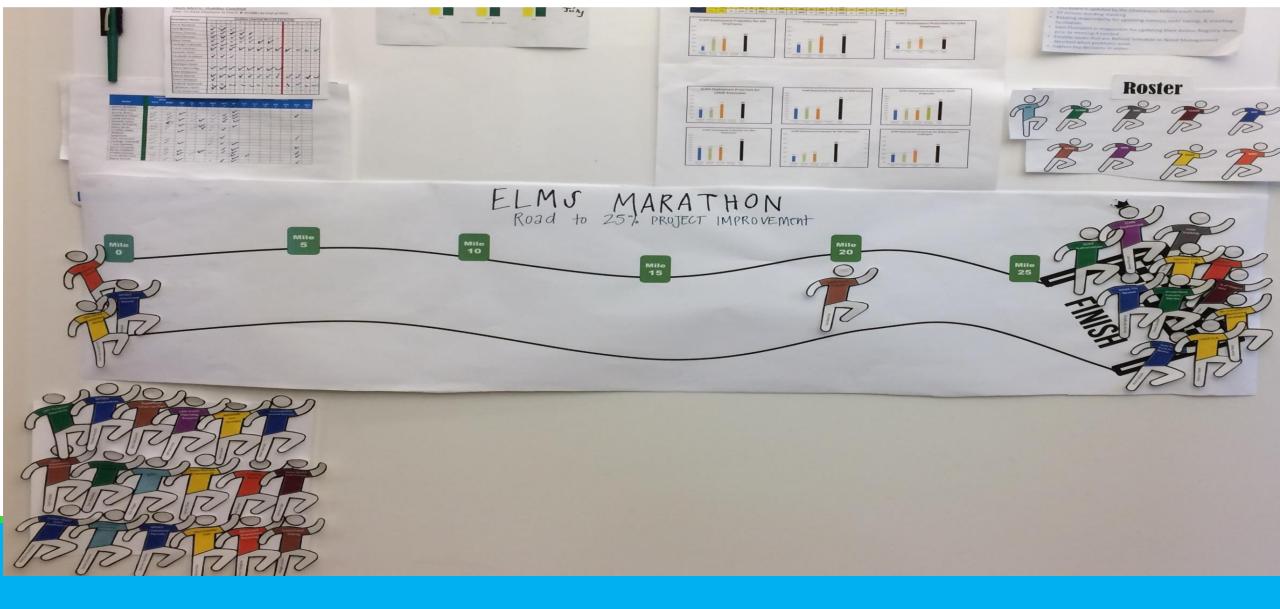
Project Start Date:12/2/19

1 2 3 4 5
Estimated Project Completed
Date: 4/1/20

BOX 10: SIGNATURE

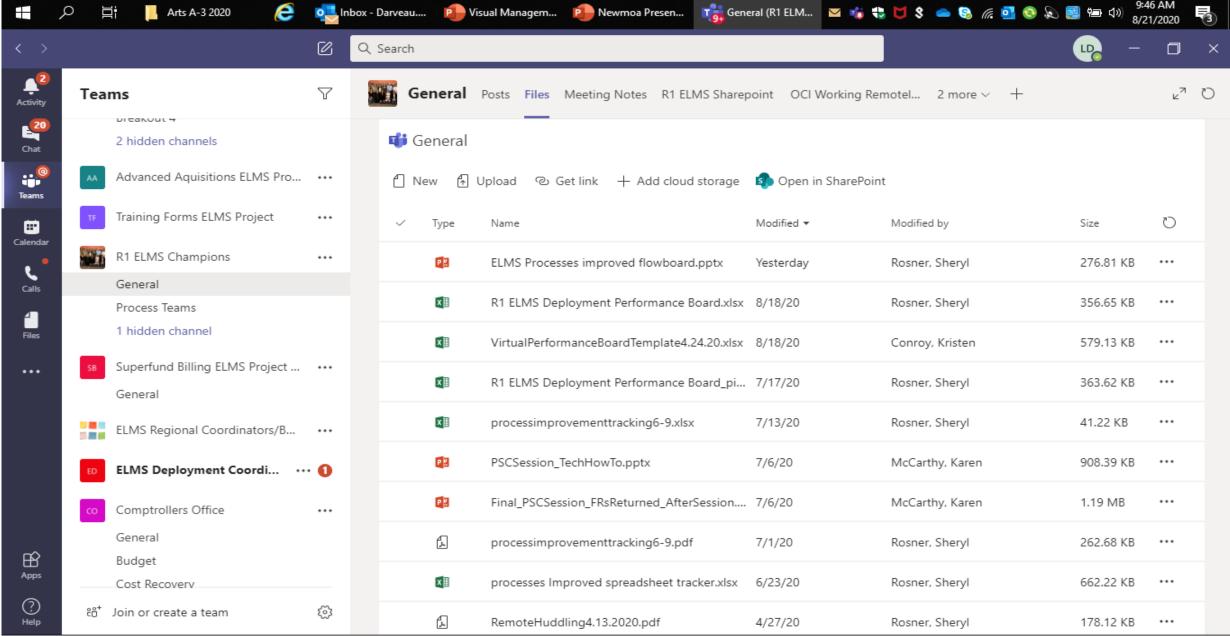
Executive Sponsor's Signature:



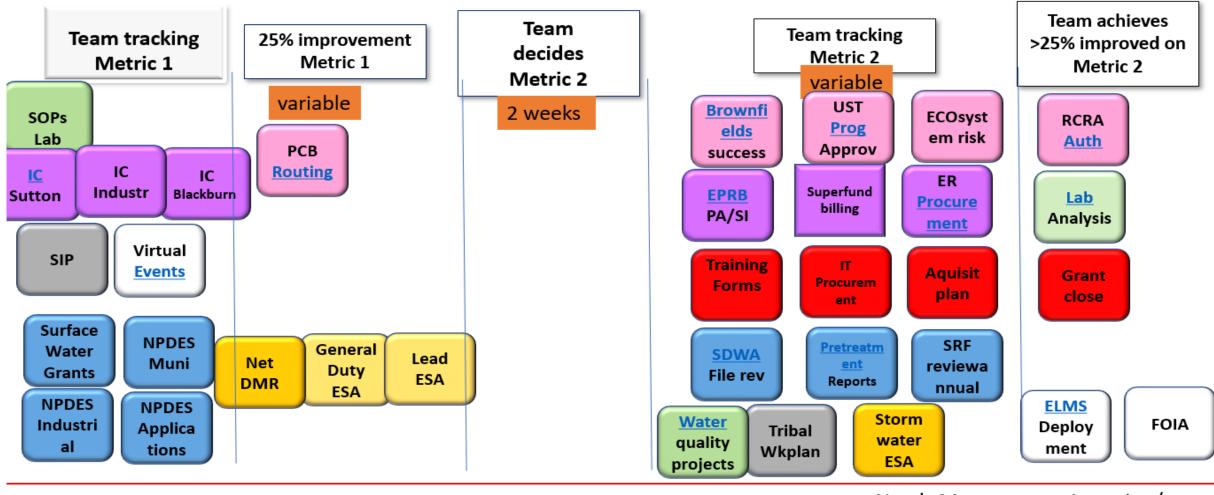


And then- Covid 19





Process Improvement Flowboard





Needs Management Attention/ Request to sunset and replace with new process

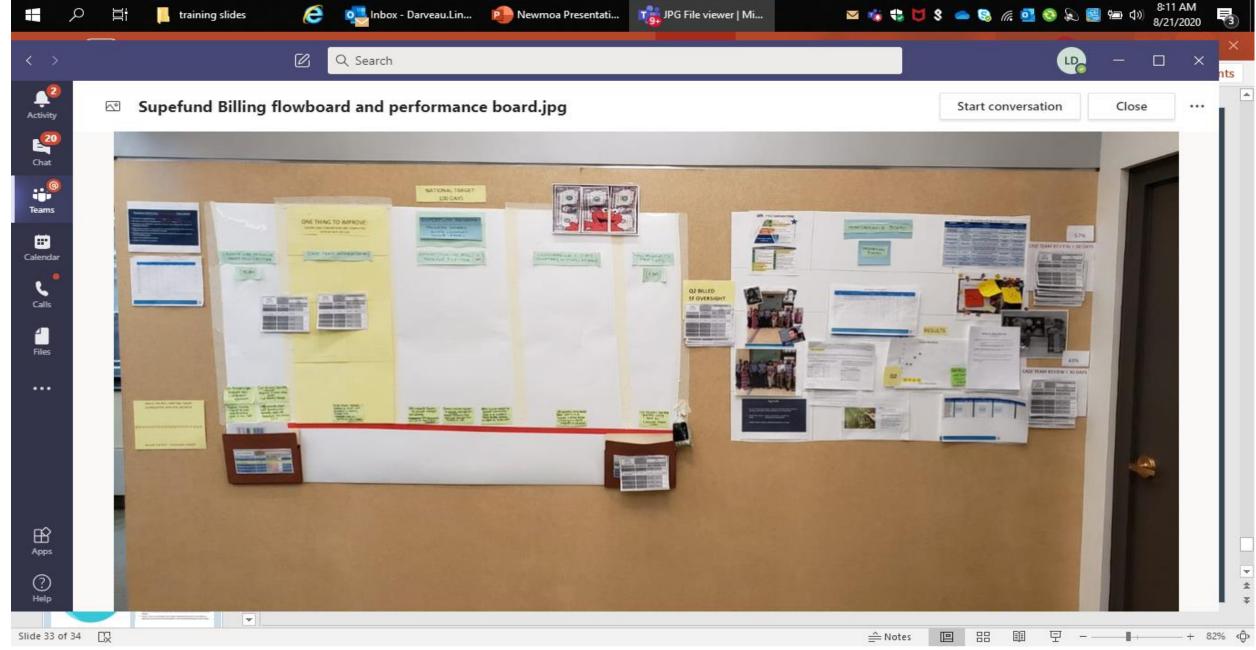


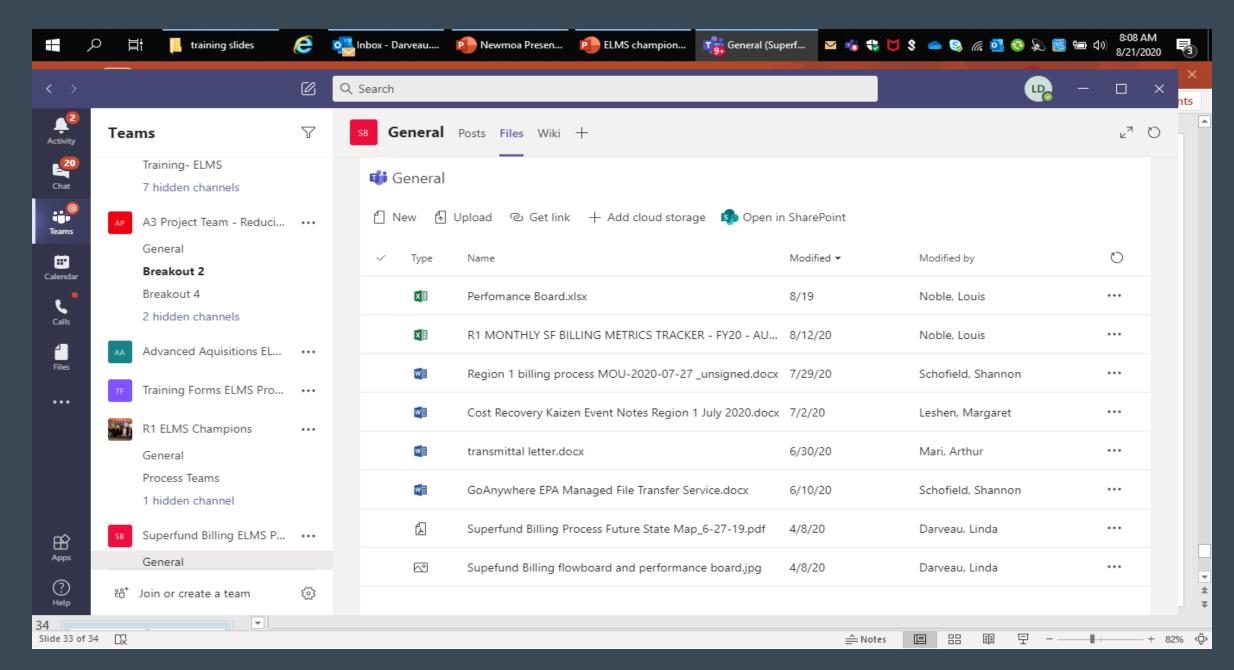
ELMS Deployment

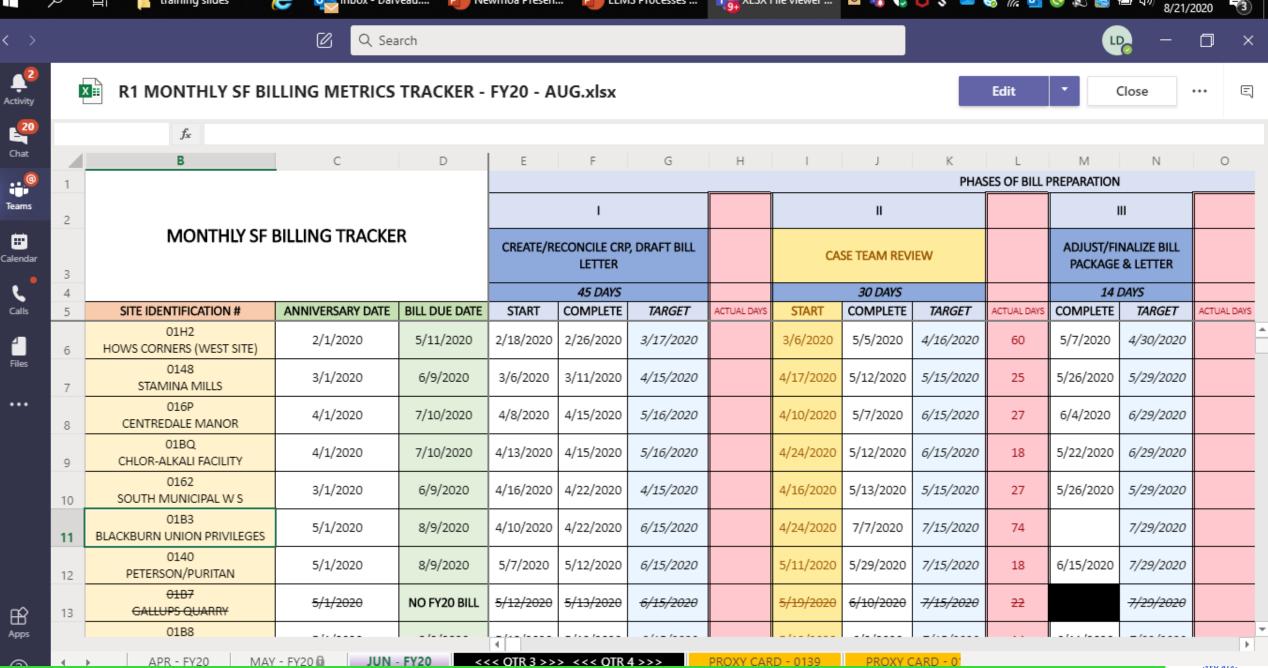
Champion: Sheryl Rosner

Huddle time: 11:45

	Date complete	% improvement	Problem solving Y/N
Metric 1: Improve confidence in training for deployment			
Baseline: 0/18 champions confident			
Current State 12/18 champions felt confident by target date	January 2020	75%	
Metric 2: Description: 75% of teams that completed Metric 1 decide on Metric 2 and update proxy cards by 7/31			YES
Baseline: 23 active teams achieved metric 1 and only 4 teams	January 21		
decided on metric 2 (6%)			
Current state: 18 teams decided on metric 2 and began	7/31/20	72%	
measuring by 7/31 (78%)		improvement	
Electronic flow board complete?	7/2020		
Electronic performance board complete?	6/2020		
Deb and Dennis Huddle attendance			







Activity

20

Chat

Teams

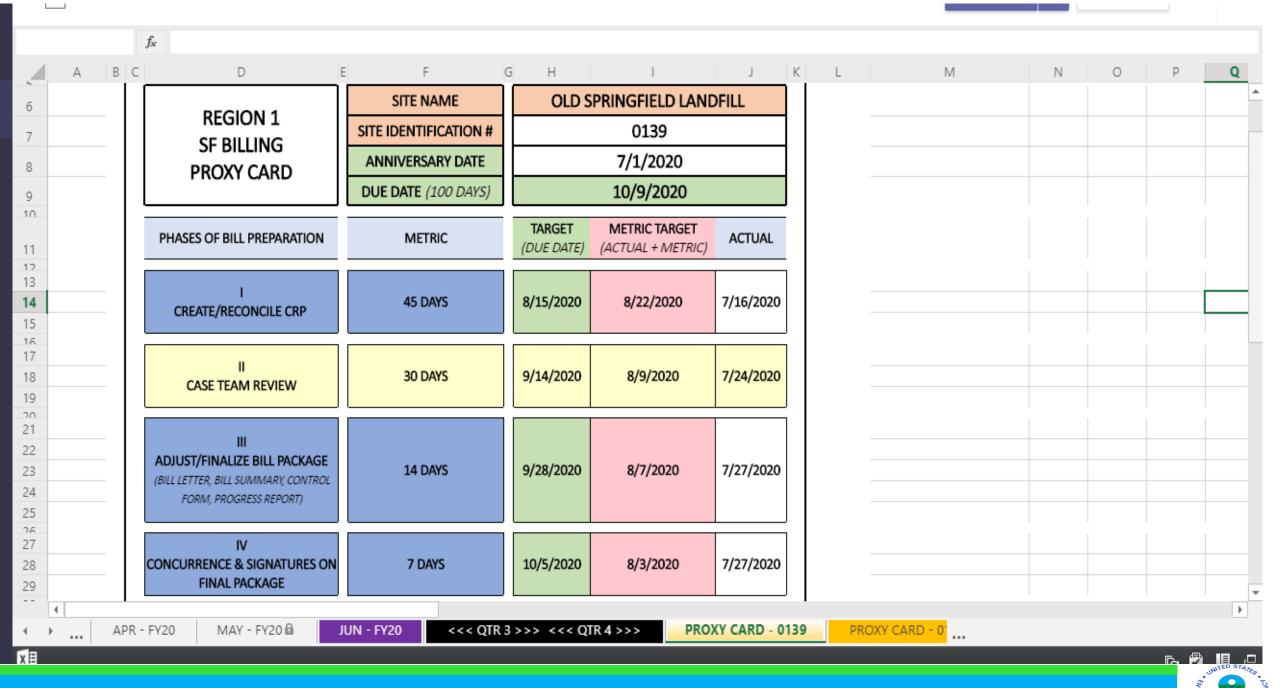
Calendar

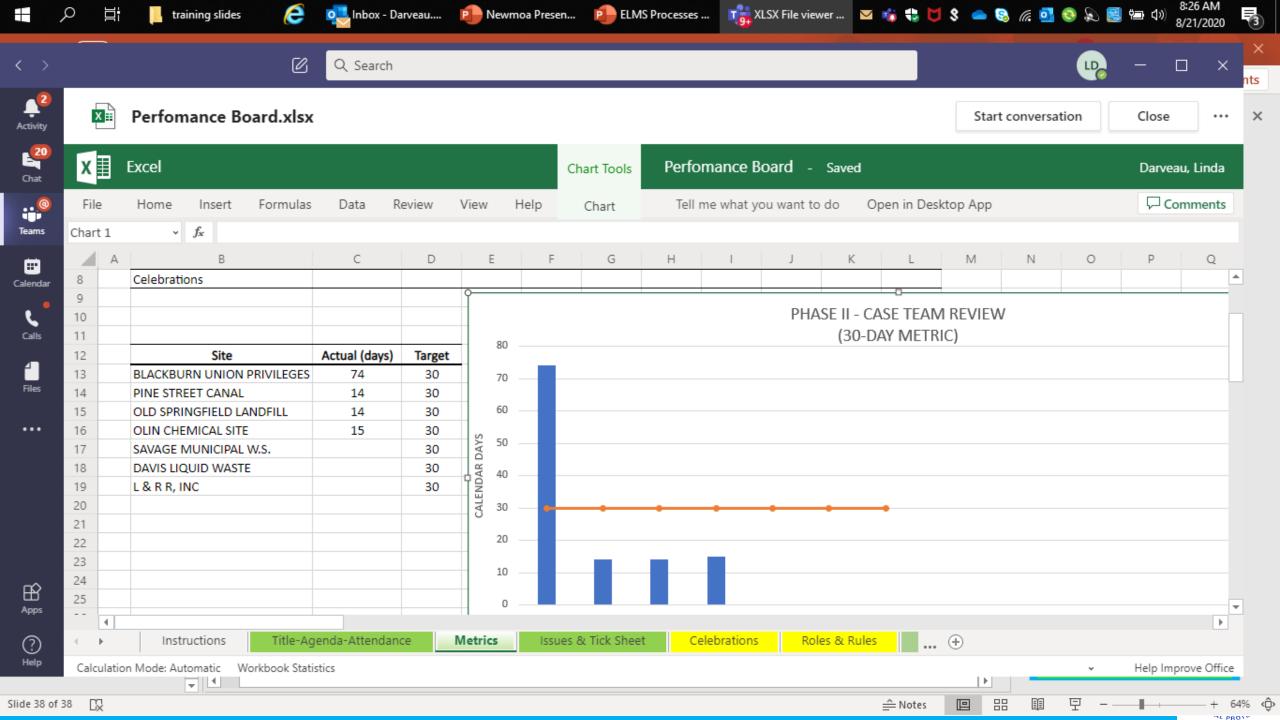
Calls

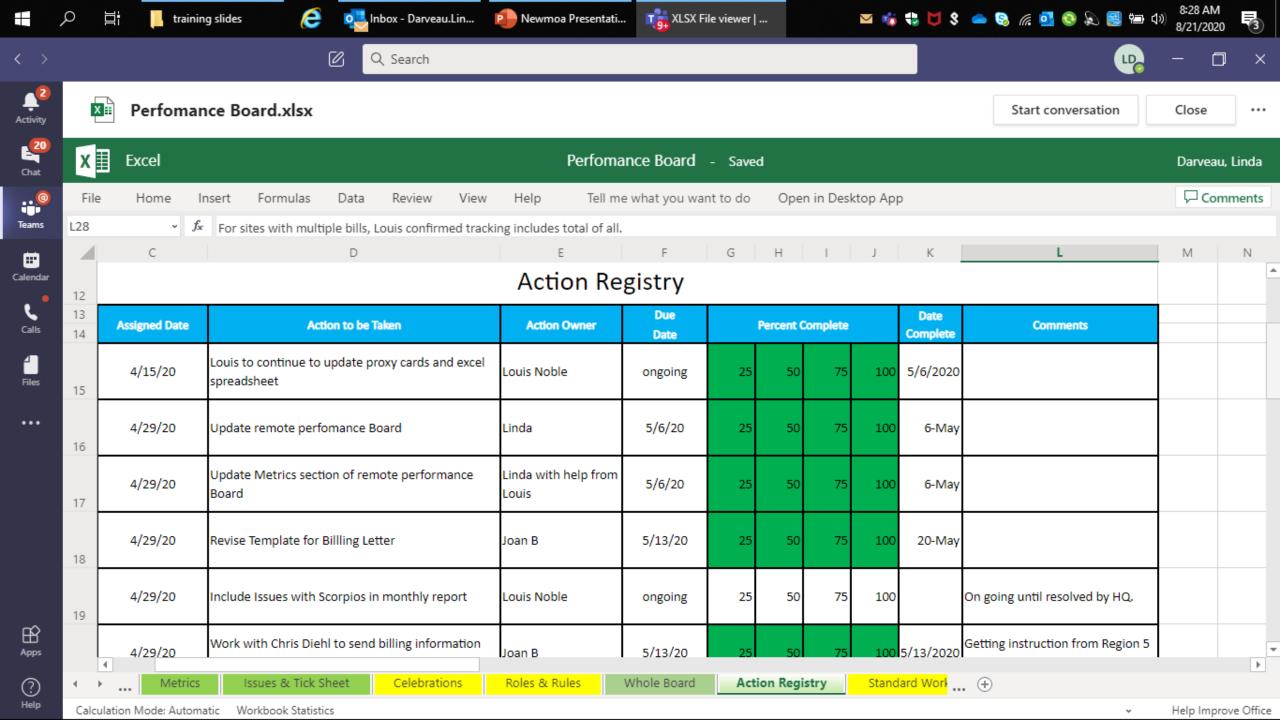
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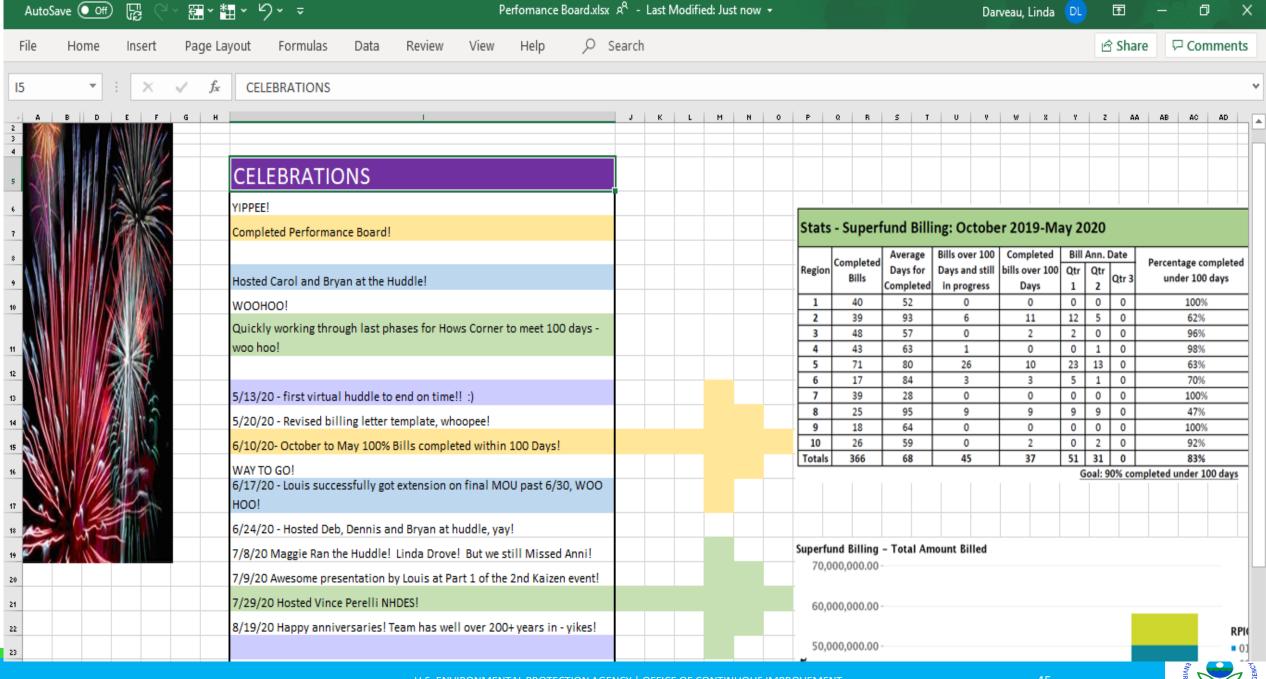
Apps











Lean Management: http://intranet.epa.gov/oci/







Questions or comments?

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