



Department of
Environmental
Conservation

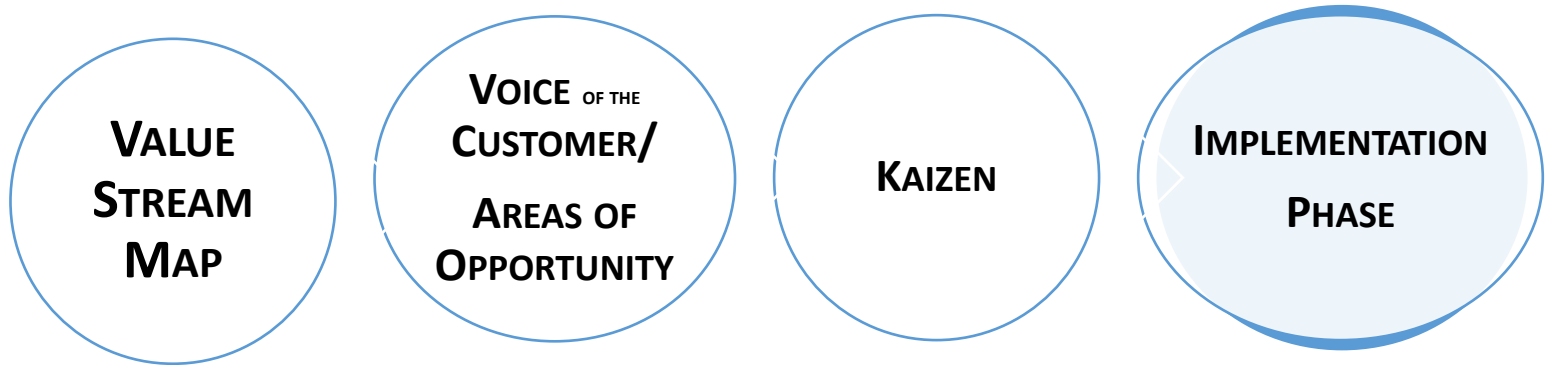
Process Improvement: Part 360 SWMF Annual Reporting

Federation of New York Solid Waste Associations
Solid Waste & Recycling Conference
Bolton Landing, NY
May 23, 2017

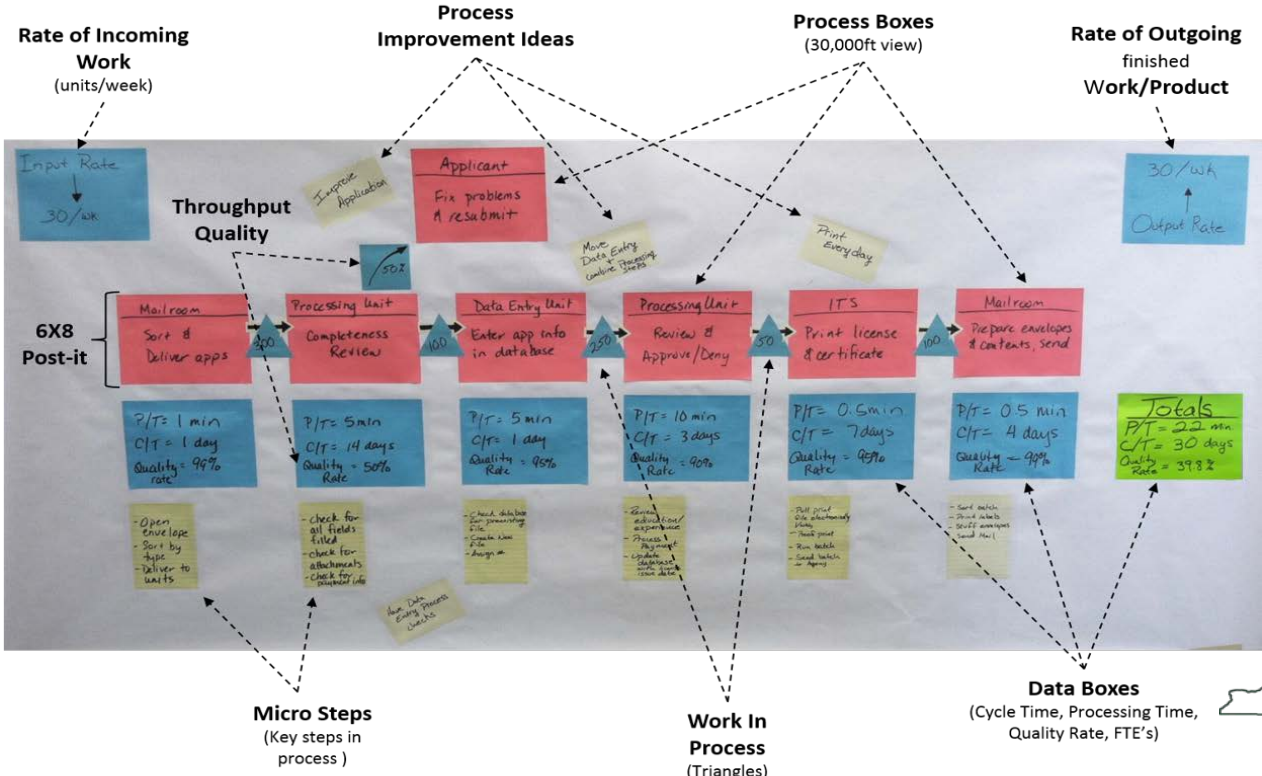
General Definition of Lean

- *A systematic approach to identifying and eliminating waste through continuous improvement.*
- *Making value flow at the pull of the customer.*

Team Tools to Conduct Lean Project



Value Stream Map (VSM) – Shows Major Process Steps and Timeframes/Quality of those Steps



NYS Lean Required Metrics

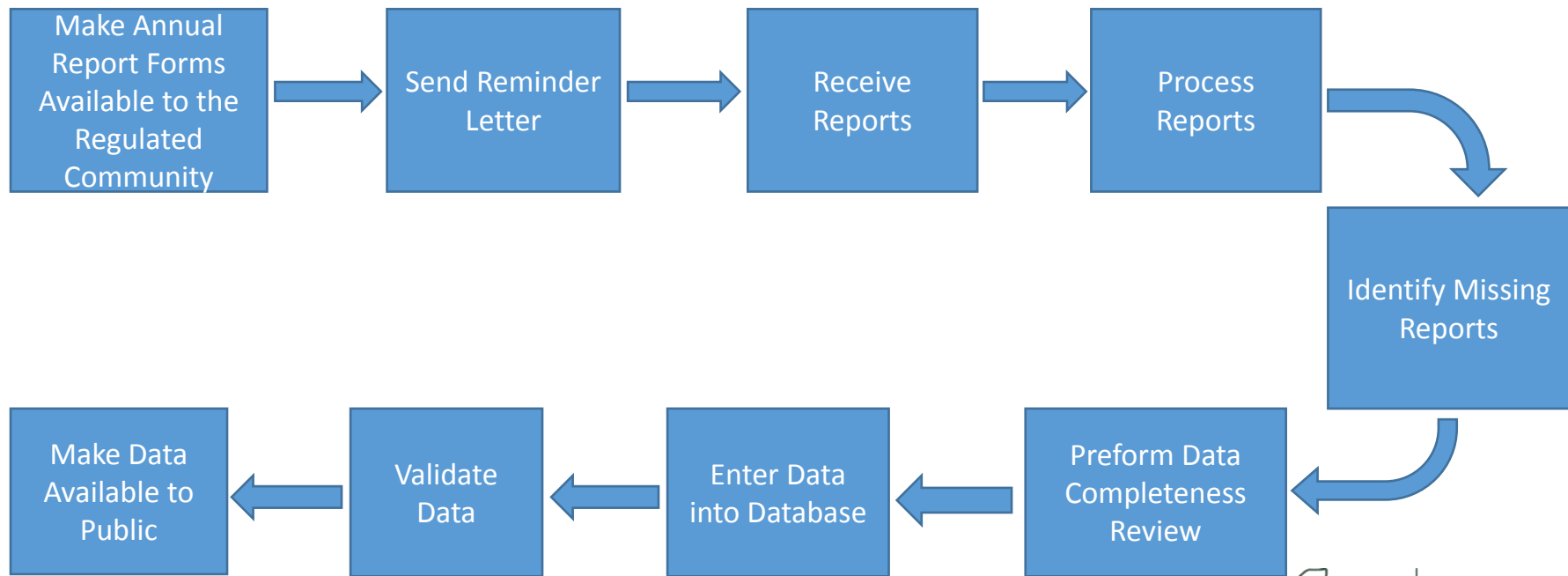
Process Time (PT): Time it takes for one piece of work to move through a process step, disregarding wait time and assuming staff focuses solely on that piece of work from receipt through completion. PT is calculated for each process step and totaled to determine PT for the entire process.

Cycle Time (CT): Time it takes for one piece of work to move through a process step, taking into consideration wait time and other staff work. CT is calculated for each process step and totaled to determine CT for entire process.

NYS Lean Required Metrics

Quality Rate (QR): Probability that a piece of work moves through the entire process without requiring rework (incomplete application, contact customer for clarification, internal revisions, etc.). QR is calculated for each process step then *multiplied* to determine QR for entire process.

Value Stream Map – Part 360 Annual Reports



Part 360 AR: Metrics

Input: 2500

Output: 2500

Cycle Time

Average: 508 days

Target: 381 days

Quality Rate

Average: 6%

Target: 26%

MAJOR Process Steps		Process Time (days)	Cycle Time (days)	Quality Rate		FTE	WIP
			Target	Average	Target		
1	Make Solid Waste Management Facility Annual Report Forms Available to the Regulated Community	15	20	90%	97%	0.04	
2	Prepare and Mail Reminder Letter	10	21	90%	95%	0.04	0
3	Receive Reports	1	1	95%	95%	0.00	2500
4	Process Reports	19	59	80%	90%	0.75	0
5	Identify and Rectify Missing Reports	15	75	50%	85%	0.75	0
6	Conduct Data Completeness Review	25	90	66%	75%	0.75	0
7	Enter Data for the Current Reporting Year	100	120	75%	85%	1.25	0
8	Validate Data in SWIMS	40	80	50%	75%	1.00	2500 (2014)
9	Export Data to EXCEL for Further Validation	20	40	75%	85%	0.40	2500 (2013)
10	Data Available to Public	2	2	95%	95%	0.01	0
Totals		247	508	5.43%	25.9%	4.99	

Pre-Kaizen Product: Project Charter

Defines:

- Process & related problems
- Project scope
- Goals to improve process
- Baseline metrics
- Process customers/stakeholders

Team product: Charter to DEC Exec



Pre-Kaizen Product: Voice of the Customer (VOC) Summary

- Interview customers to obtain feedback on existing process
- Interview external & internal customers with process experience in last 2-3 years
- Develop and ask same questions about their experience
- ***Team products:***
 - Summary of customer feedback
 - List of areas of opportunity from feedback



Voice of the Customer – External Customers

Involvement with annual report process?

- Responsible for submitting reports
- Multiple forms for multiple facilities in the county
- Multiple forms for one facility

How do you submit your annual report?

- Annual reports sent to RO and CO

How does DEC perform in reminding reporters?

- 2nd reminder letter
- Reminder by email

How can DEC improve the guidance?

- New filers found forms to be confusing
- Clarify instructions and waste types



Voice of the Customer – External Customers

How would electronic reporting affect you?

- Most customers thought they would use this
- Easy to use system with simple training & guidance
- Requested ability to:
 - Autofill
 - Fill out form and save throughout the year
 - Submit supporting documents

What would you like to see as an output of the data?

- Statewide trends
- Data by region
- Trouble navigating ftp site

Anything you would suggest?

- Fillable pdf forms



Voice of the Customer – Internal Customers

Major Findings:

- Communication between CO & RO – roles & responsibilities
- Time needed to process annual reports & enter data
- Limitations of database
- Inconsistent data entry
- Delay in compiling data



Pre-Kaizen Product: Areas of Opportunity List

- Team identifies process areas needing improvement, based on findings from:
 - Project Charter
 - Value Stream Map
 - Voice of the Customer

Team product:

- ***Prioritized Areas of Opportunity list***



Areas of Opportunity

- Procedures
- Database Issues
- Facility Reporting
- Data Entry
- Staffing
- Communications

Procedures

- a) **Standard Operating Procedures needed** – employee manual
- b) **Multiple filing systems are used, staff and customer enter data multiple times** – Facility, DEC – physical and electronic filing system. **Electronic include SWIMS and separate excel files***
- c) Annual Report and SWIMS do not track exactly the same information
- d) **Division of labor is different across the regions – non-standard workflow**
- e) Need to improve Standardized Non-reporter Enforcement process
- f) Utility of information gathered by annual report

Database Issues

- a) Time consuming to develop spreadsheet of missing facility reports*
- b) **Current system lacks an electronic reporting system for facility reports**
- c) **SWIMS database is not able to cross check permit conditions with annual report information to identify violations, i.e. accepting too much of a type of waste, accepting a type of waste not in permit conditions***
- d) **Utility of SWIMS – limitations that make process more difficult**
- e) Data is not versatile for analysis through current database
- f) SWIMS data fields do not fully match Annual Report forms

Facility reporting

- a) **Inaccurate contact information – changes occur regularly but are not always captured in current operating procedures resulting in undelivered reporting forms.**
- b) **Facilities provide incomplete and inaccurate reports***
- c) **Current forms and reporting requirements are unclear; forms are difficult for facilities to fill out accurately and must be filled out by hand**
- d) Forms are redundant: some facilities are required to fill out multiple annual report forms
- e) Communications with customers

Data Entry

- a) **Incorrect file naming and file location**
- b) Data entry errors in SWIMS*
 - Inconsistent terminology from facilities
 - Data entry errors by staff
- c) **Not clear if CO/RO received reports because of inconsistent method for entry into Matrix database***

Staffing

- a) **Lack of staff assigned to data validation step***
- b) **Work load balance between data entry and tracking down missing reports – time spent tracking down missing reports slows data entry step.***
- c) **Need to reduce prior years backlog**

Communications

- a) **Need to improve utility of information made available to public, facilities and regional staff**
- b) **Communication between CO and RO needs to be improved**
 - Not clear who has received Annual Reports
 - Not clear who does each step.

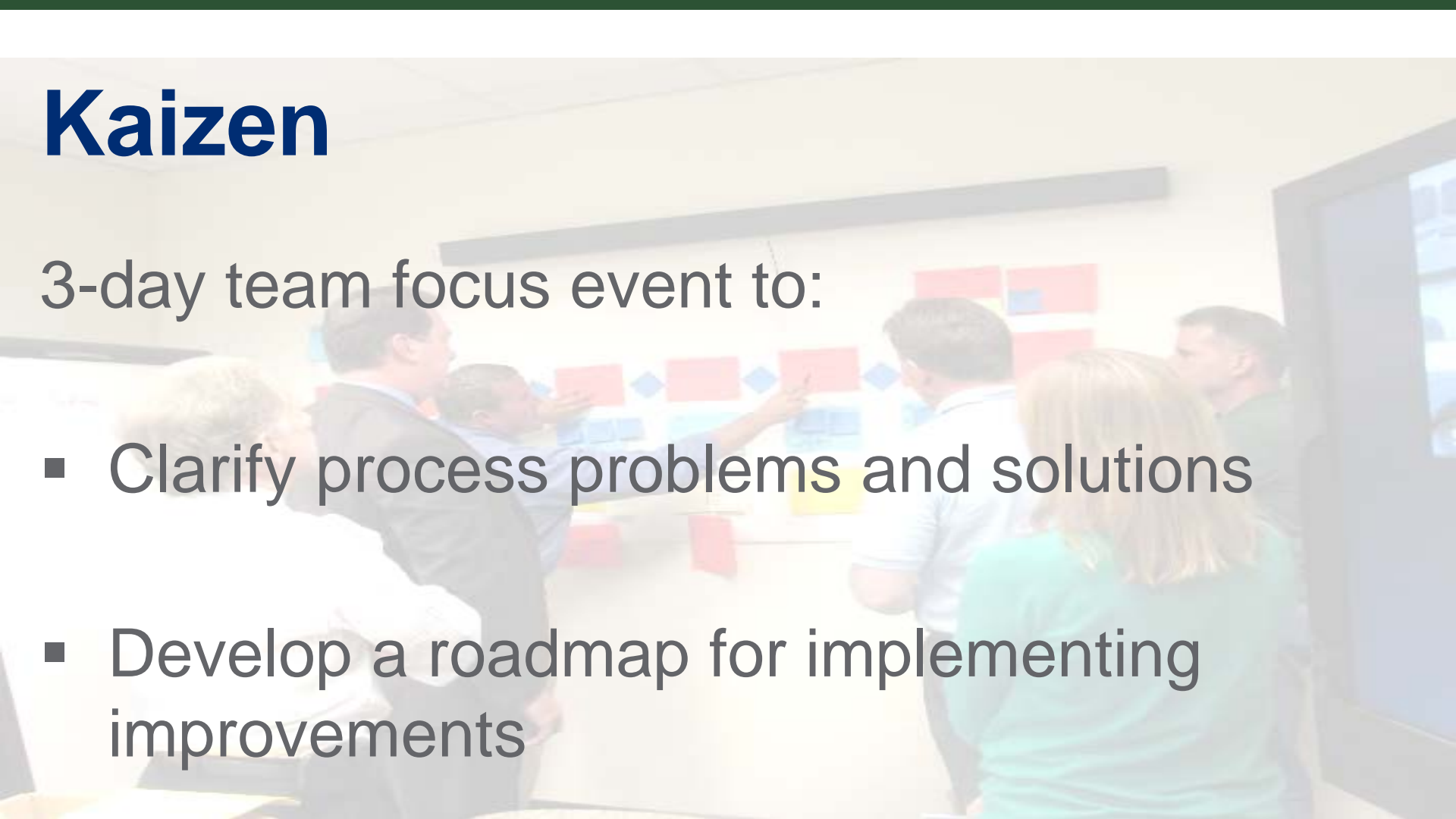
KAIZEN PHASE

- **Team kaizen is held**
- **Team develops products during kaizen**



Kaizen

3-day team focus event to:

- Clarify process problems and solutions
 - Develop a roadmap for implementing improvements
- 
- A group of people in a meeting room looking at a whiteboard with sticky notes. The whiteboard has a flowchart with red and blue sticky notes. A man in a blue shirt is pointing at the board. A woman in a green shirt is in the foreground, looking at the board. Other people are visible in the background.

Kaizen Products Used in Post-kaizen Phase

- Implementation Plan
- Communication Plan
- Metrics Whiteboard
- Scoreboard



Implementation Phase

- ✓ **Complete Lean strategies on schedule**
- ✓ **Conduct regular team huddles**
- ✓ **Update implementation plan**
- ✓ **Utilize, update & display scoreboard**
- ✓ **Track and update project metrics**
- ✓ **Report monthly to Empire Belt:**
 - Update implementation plan progress
 - Process metrics



Tools to Conduct Implementation Phase

**IMPLEMENTATION
PLAN**

TEAM HUDDLES

**DATA
COLLECTION
SHEET &
METRICS
WHITEBOARD**

SCOREBOARD

**Report to Executive/ Management
(30-60-90+ days)**



**Department of
Environmental
Conservation**

Strategies from the Kaizen

- Develop internal Standard Operating Procedures
- Enhance our internal database
- Develop fillable pdf versions of the annual report forms
- Reorganize the Department's ftp site
- Enhance the guidance on several of the annual report forms
- Develop plan to complete data from prior reporting years
- Develop web based reporting



Web-based reporting

- Allow facility to submit annual report data online
- Autofill general facility information
- Ensure all required fields are complete
- Allow for report to be filled out throughout the year
- Allow for submission of supporting documents
- Send confirmation of receipt



Scoreboard & Metrics Whiteboard

Scoreboard

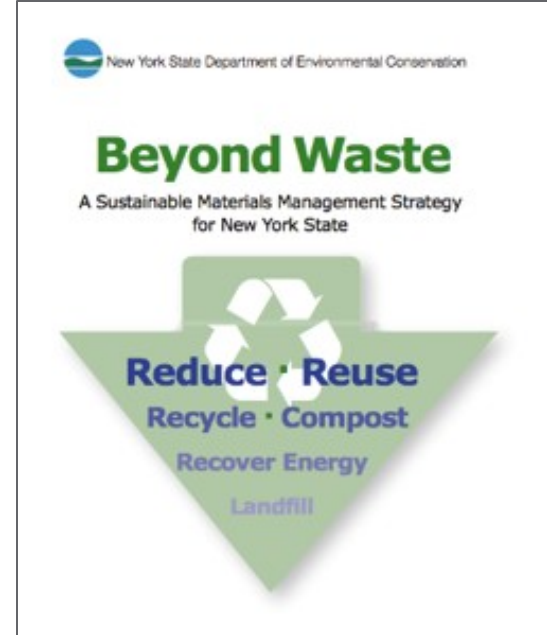
Track where we are in the process for all reporting years
Identify areas that need improvement

Metrics Whiteboard

Report progress to the Governor's office

Why is the annual report data important?

- Solid Waste Management Planning
- Waste Flow
- Facility Performance & Compliance
- Trends and Forecasts
- Respond to Information Requests



Thank You

Richard Clarkson

Director, Bureau of Permitting and Planning

richard.clarkson@dec.ny.gov

518-402-8678

Jaime Lang

Professional Engineer 1

jaime.lang@dec.ny.gov

518-402-8678