



# Lean 6-Sigma Program



## *California Energy Commission*

**Marites Antonio**  
(Project Greenbelt)

**Dave Ashuckian**  
(Project Champion)

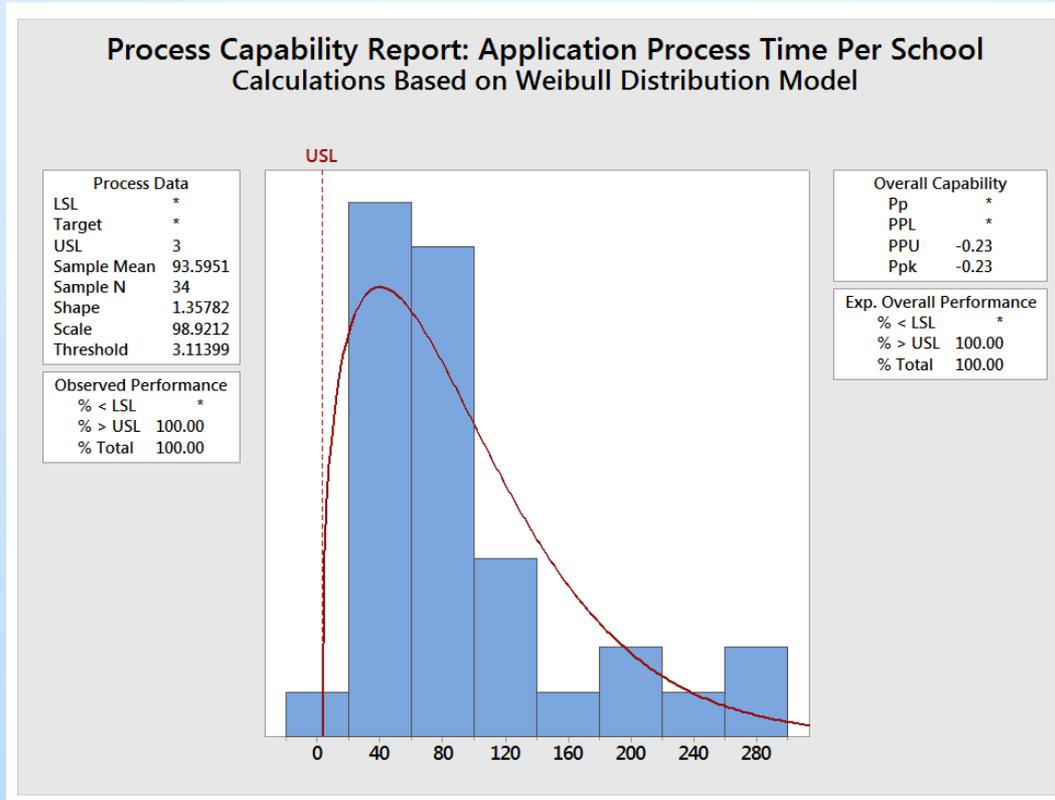
**Drew Bohan**  
(Executive Sponsor)



# Bright Schools Program (BSP) Application Process

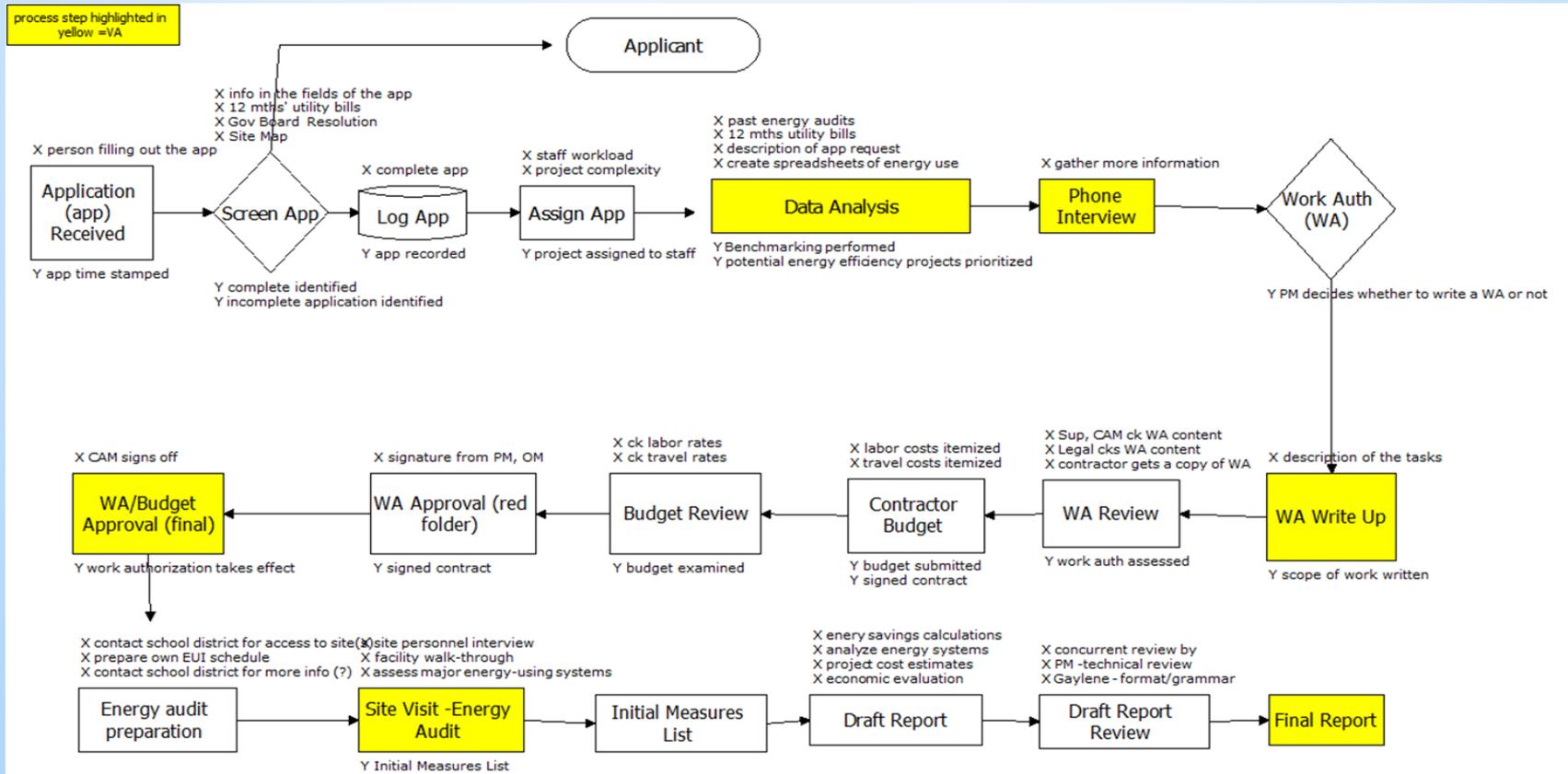
- ❖ **Problem Statement:** The Bright Schools Program (BSP) provides energy audit services for schools. The approval process takes one-two months upon receipt of a BSP application. With the increase in the number of applications received, the current approval process causes delays and dissatisfaction from the schools which have resulted in application cancellations.
- ❖ **Objective:** To improve and streamline the application process so that 95% of applications are approved within the target time, which is three days for each school listed on the application.
- ❖ **Project Team:**
  - ❖ *Dave Ashuckian– Champion*
  - ❖ *Marites Antonio– Green Belt*
  - ❖ *Amir Ehyai– Team member*
  - ❖ *Anne Fisher– Team member*
  - ❖ *Karen Perrin– Team member*
  - ❖ *Bill Pfanner– Team member*

# Baseline Capability



- ❖ Sample Mean– 93 days; Sample Max – over 280 days
- ❖ Observed performance – 0% within 3 days.

# Initial Process Map



❖ The non-value added steps are highlighted in white while the value added steps are highlighted in yellow.

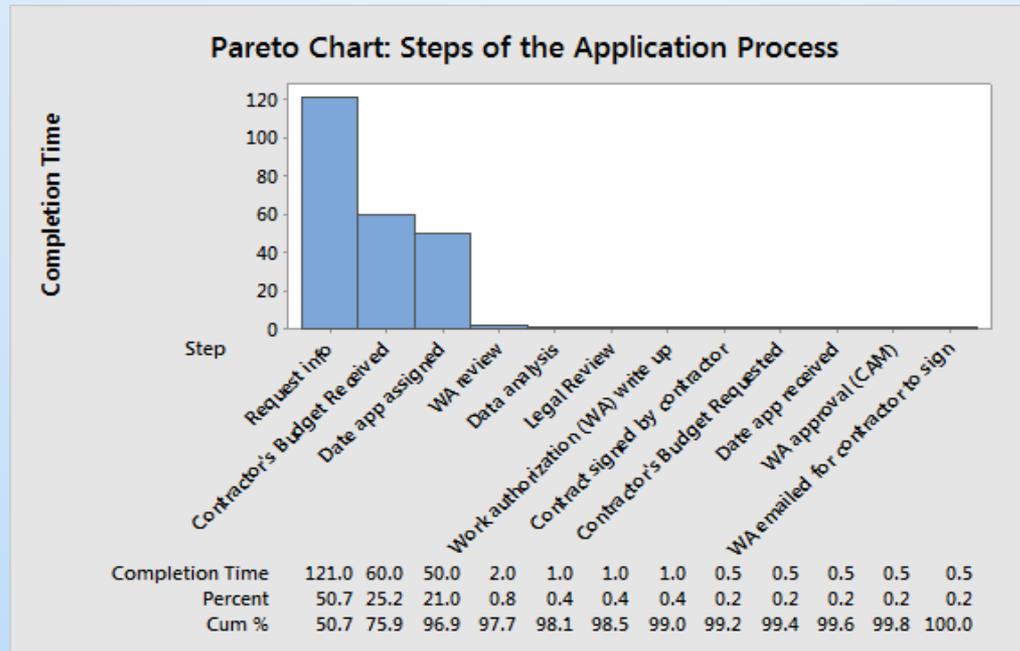


# *Analysis Tools*

- ❖ Analytical tools used to determine critical x's include:
  - ❖ Fishbone diagram
  - ❖ Capability analysis
  - ❖ Boxplots
  - ❖ Dotplots
  - ❖ Variable Gauge Study
  - ❖ FMEA
  - ❖ Pareto chart



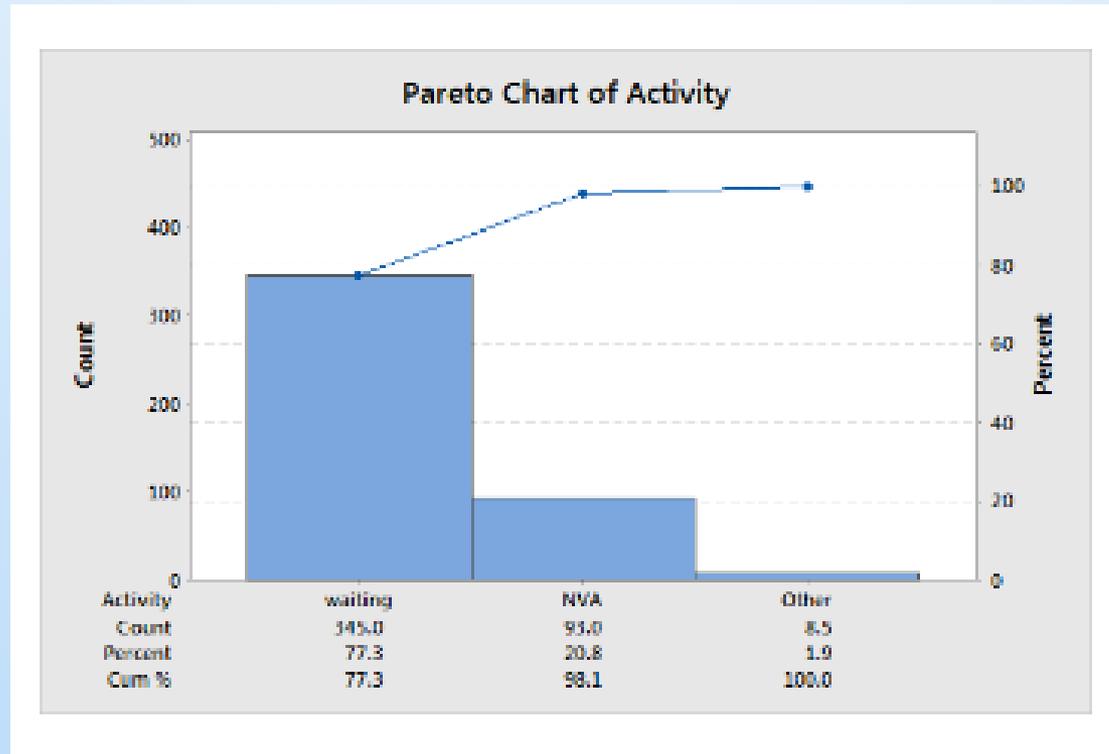
# Processing Times for Key Tasks



- ❖ The twelve main steps in the application approval process went over the 3-day goal.



# Processing Times for Key Tasks



- ❖ Wait time accounts for 77% of the application approval process and non-value added activities account for 20%.

# *Critical X's (root causes of problems)*

- ❖ Critical x's determined by the analysis tools
  - ❖ Wait time due to missing and/or incomplete information on the application
  - ❖ Review/approval time – six signatures required
  - ❖ Submittal of contractor's budget taking over a week

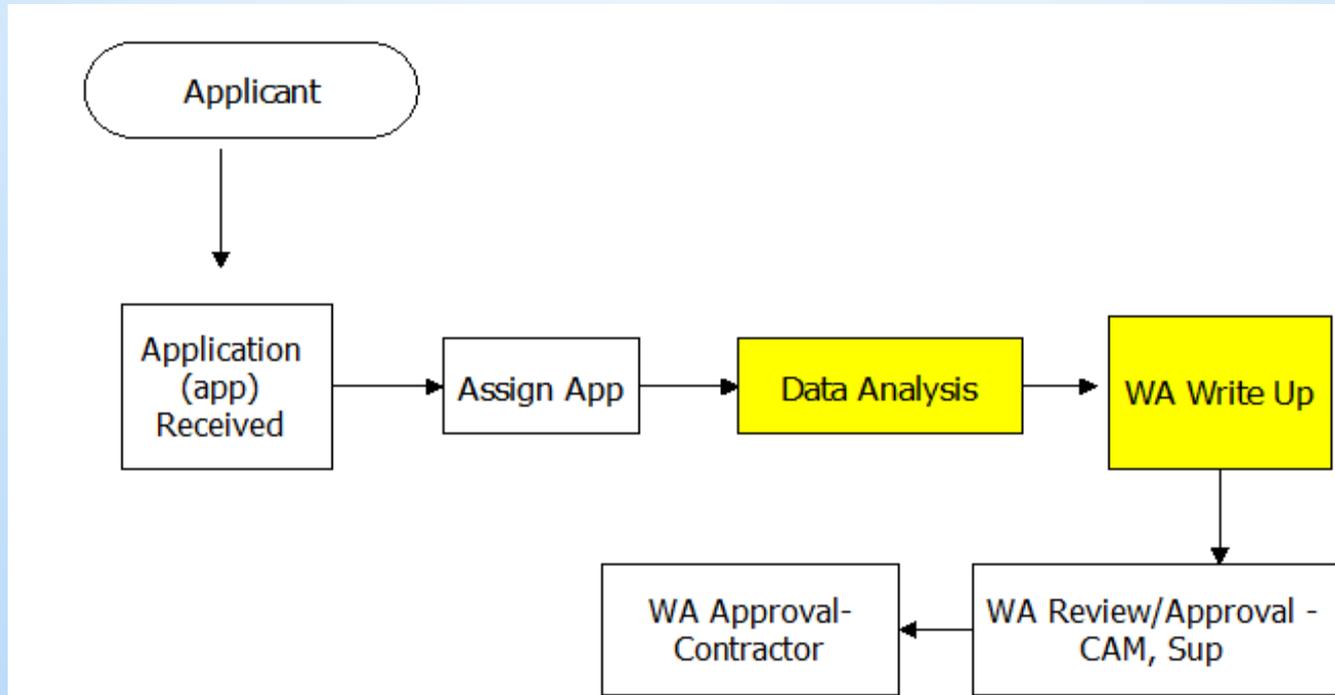


# Improvement Techniques

- ❖ Mistake proofing
  - ❖ Work authorization
- ❖ Simplification/elimination of steps
  - ❖ Approval signatures- remove layers of approval
  - ❖ Contractor's Budget
- ❖ Standard work/checklist
  - ❖ Application packet revised
    - ❖ application form requires applicant to provide detailed information to avoid unnecessary emails/phone calls after receipt of application
    - ❖ Checklist
    - ❖ electronic submittal
- ❖ Training
  - ❖ Training staff in analyzing raw electricity/gas data.



# New Process Map



- ❖ Value added steps are completed prior to the receipt of the application packet. Non-value added steps removed.

# *New Capability Analysis*

	Number of Days	
	BEFORE	AFTER
❖ Application review data analysis and write-up	60	1-2
❖ Review/approval	9	1-2
❖ Budget	5-12	1

Projected performance: 95% within 3-5 total days.



# Control Plan

- ❖ Control elements to be utilized:
  - ❖ Standard Operating Procedures (SOPs) – Revisions to procedures for analyzing data, reviewing and approving the application.
- ❖ Total days (Y output) to be monitored using an I- chart
- ❖ Track defects caught in reviews using U- Chart
  - ❖ Per application, how many pieces of information are missing



# *Additional Benefits*

- ❖ Our team gained a deeper understanding of our own workflow process.
- ❖ The project gave us confidence that change is possible.

.....so off to the next project!



# ***Green Belt Contact Information***

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