Performance Indicators For Emergency Management

TRADE
Emergency Management Issues
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Introduction

- Fluor Hanford Emergency Management Program has been using performance indicators and a dashboard display for the past year
- Integrated into company safety and health performance indicator program

Emergency Management Performance Evaluation

- Focuses on project emergency response organization performance
- Performance indicators:
  - Drills conducted/drills scheduled
  - Satisfactory drills/drills conducted
  - Successful actions/actions evaluated
- One of several tools the Emergency Management Program uses for performance analysis

Statistical Process Control

- Performance Indicators based upon statistical process control (SPC)
- It is a way of:
  - Presenting data on a chart
  - Determining if you have a trend
  - Determining if you are stable
  - Determining the capability of your process
- It is also a way of thinking

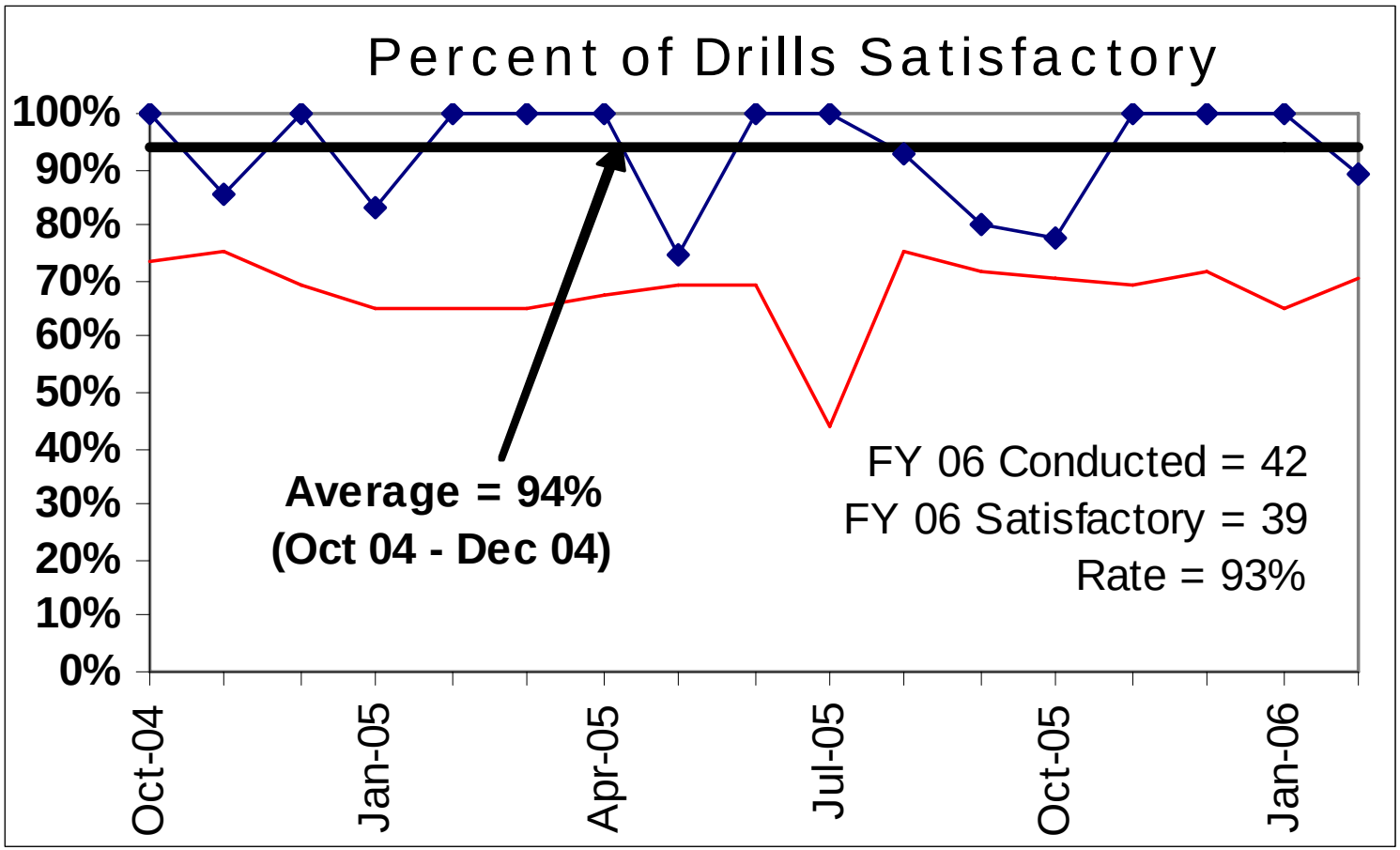
SPC Description

- Data are plotted in time sequence
- Baseline average (center line) is added
- Upper and Lower Control Limits (UCL/LCL) are added, three standard deviations above and below the average
- UCL and LCL represent the expected range of variation in the data
- Variation outside this range is circled (other rules are used in addition)
- See the “Hanford Trending Primer” at http://www.hanford.gov/safety/vpp/trend.htm.

Purpose of Trending

- Actions taken to improve a process are different, depending on whether or not the process is "stable"
- Attempting to explain or correct for individual datum point changes in a stable process will not improve performance
  - *You will be making a mountain out of a molehill*
- Missing initial indication of a trend (and missing the opportunity to determine the cause of the trend):
  - *Will cause the molehill to grow into a mountain*

Example Control Chart



Control Chart Use

- Control chart is a management tool
- Management must interpret the information, formulate the appropriate action, take the action, and determine the effect of the action
- Leading indicators are a method to influence performance versus a method to predict performance

Emergency Preparedness Dashboard

- Integrated presentation that management can use to easily determine areas that may need focus
- Senior management tool
- Gives visibility to projects that are performing well and to those that may need extra attention

Red Yellow and Green

Control Chart Result	Decision	Color	Leadership Action
Stable	Level Is Acceptable	Green	Stay The Course
	Level Is Not Acceptable	Yellow	Improve System
Trend	Adverse	Red	Corrective Action
	Improving	Green	Reinforce – Stay The Course

Emergency Preparedness Dashboard

Fluor Hanford Dashboard
Safety and Health
Emergency Preparedness

Indicator (with link to definition)	FH Overall	PFP	K Basins	FFTF	WS&D	SW/GWVZ + WSCF	CP D&D	CS&I
Drills	**G**	**G**	**G**	**G**	**W**	**Not Applicable**	**G**	**G**
Percent of Drills Completed versus Scheduled	G	W	G	G	W		G	G
Percent of Drills Rated Satisfactory	W	G	G	G	Y		G	G
Personnel Proficiency Observations	W	G	G	W	W		G	G

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The Fluor Board System

Fluor Hanford Dashboard: Safety and Health - OS&H

Indicator (with link to definition)	FH Overall	PFP	K Basins	FFTF	WS&D	SW/GWVZ + WSCF	CP D&D	CS&I
LEADING INJURY INDICATORS	G	G	G	G	W	G	G	G
First Aid Case Rate	G	G	W	W	Y	G	G	Y
ORPS	W	W	G	Y	Y	W	W	G
Near Misses	G	G	G	G	W	Y	G	W
No. Safety Inspections	G	G	G	G	G	G	G	G
Safety Inspection Scores	G	G	G	G	G	G	G	G
HGET Survey	G	W	G	G	W	G	G	G
Safety Related Employee Concerns	W	G	G	G	W	G	G	G
LAGGING INJURY INDICATORS	W	G	W	G	Y	G	G	G
OSHA Case Rate	W	G	R	G	G	G	G	G
DAFW Case Rate	W	G	G	G	Y	G	G	G
DART Case Rate	G	W	G	G	Y	G	G	G
Severity Rate	W	W	G	G	Y	G	G	G

Fluor Hanford Dashboard
Safety and Health
Radiation Protection

Indicator (with link to definition)	FH Overall	PFP	K Basins	FFTF	WS&D	SW/GWVZ + WSCF	CP D&D	CS&I
LEADING RAD PROTECTION INDICATORS	W	W	W	G	W	G	W	G
Skin Contaminations > 1 x Appdx D	W	W	W	W	G	G	G	G
Events Requiring Initiation of Non-Routine Bioassay	W	W	W	G	Y	G	W	G
LAGGING RAD PROTECTION INDICATORS	W	G	W	W	W	G	W	G
Reportable Skin Contaminations	Y	G	W	W	W	G	W	G
Internal Depositions >100 mrem	G							

Fluor Hanford Dashboard
Safety and Health
Vehicle, Hazardous Energy Control, and DOE-RL Request

Indicator (with link to definition)	FH Overall	PFP	K Basins	FFTF	WS&D	SW/GWVZ + WSCF	CP D&D	CS&I
LEADING INDICATORS	G	G	G	G	W	W	G	W
Non Reportable Vehicle Incidents	W	G	G	G	W	G	G	Y
Lock and Tag CAMS Action Requests	G	W	W	G	Y	Y	G	W
LAGGING INDICATORS	Y	G	W	W	W	W	G	W
Reportable Vehicle Incidents	Y	G	G	G	Y	W	G	Y
Hazardous Energy Control (ORPS)	R	W	Y	Y	G	W	G	G
Emergency Medical Transports	W							

Fluor Hanford Dashboard: Regulatory Compliance - CAMS

Indicator (with link to definition)	FH Overall	PFP	K Basins	FFTF	WS&D	SW/GWVZ + WSCF	CP D&D	CS&I	Functional Orgs
Performance Indicator	W	G	G	G	G	W	G	G	W
PI 1. Cycle Time: % Issue Evaluations Completed in a Timely Manner	R	G	G	W	G	R	G	G	Y
PI 2. Cycle Time: % of Actions Completed in a Timely Manner	G	G	G	G	G	Y	G	G	W
PI 3. Percent of Corrective Action Extensions	G	G	G	G	G	G	G	G	W
PI 4. Percent of Delinquent Actions for LTD and SI	W	G	W	G	G	W	G	G	Y
PI 5. Percent of CRD 470.2B CAP's accepted by RL	W								

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Performance Indicators For
Emergency Management

Lessons Learned

- Project management communication
- Small numbers can create poor optics
- It’s hard to not be green (in some projects)
- Consistent reporting throughout projects

Conclusion

- Emergency Preparedness Performance Indicators and the dashboard are an effective tool in assessing project emergency response organization performance
- Provides visibility for the Emergency Management Program throughout the company
- Integrated system at Fluor Hanford has proven very successful, allowing the workforce to make significant improvements