

18th Wing

353rd SOG DSV TDV UCR 8-Step Outbrief 15-19 Nov 10



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18 MXG/CD
DSN: 634-1805

19 Nov 10

This Briefing is:
UNCLASSIFIED



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 - **Set Improvement Target**
 - **Determine Root Cause**
 - **Develop Countermeasures**
 - **See Countermeasures Through**
 - **Confirm Results & Process**
 - **Standardize Successful Processes**
- **Results**
- **Way Ahead**



Summary

- **In Oct 2010, the 353rd SOG Commander chartered an AFSO 21 event to improve Direct Safety Violations (DSV), Technical Data Violations (TDV), and Unsatisfactory Condition Reports (UCR)**
- **A team was assembled and met from 15-19 Nov 2010**
- **The USAF 8-Step Problem Solving Model was used to look for and eliminate waste in the process, and to determine root causes and develop countermeasures**
- **The team completed all objectives and developed an Action Plan and way ahead**
- **The process, quality, and safety of maintenance will improve given careful execution of the Action Plan and associated sustainment and performance management recommendations**



Charter - Problem Statement

- Purpose and Need:
- There has been a recent up-trend of detected safety observations in the 353 MXS. This 353 SOG/CC directed AFSO 21 event, in coordination with the 18 MXG, purpose is to determine the root causes and recommended solutions.





Charter - Problem Statement

- **Customer Problems/Concerns (*the burning platform*):**
- **With the recent increase in safety observations there is a fear that this indicator, along with the increase in FOD incidents, dropped objects, erratic MC rates, late take-offs, and scheduled maintenance delinquencies that a catastrophic event is imminent.**





Problem Statement Clarified

- **Large amount of safety observations**
- **Need to minimize the multipliers that lead to unsatisfactory conditions**
- **High rate of DSVs, TDVs, and UCRs**
- **Repetitive problems and trends**



Charter - Deliverables

- **Compilation of data and info collected for the event**
- **Event in-brief**
- **Event out-brief**
- **Prioritized implementation plan (Action Plan with OPRs and Suspense Dates)**
- **Funding requirements for implementation (if required)**
- **Recommended policy changes**
- **Training plan**
- **After-action Event Follow-ups (30, 60, 90 day)**



Team Members



Blair, Teresa A, TSgt, 353 SOMXS/MXMOT, 634-8828

Blehm, Jason, TSgt , 353 MXS/MXMHP, 634-1319

Cox, Rory C, MSgt , 353 SOG/OGQ, 634-8383

Love, Derek M, MSgt, 353 SOMXS/MXMHP, 634-8668

Melvin, Keith A, Capt , 353 SOMXS/MXMO, 634-7020

Paul, Carl, SSgt , 353 MXS/MXMHA, 634-1334

Perleberg, Craig A, Capt, 353 MXS/MXM, 634-6586

Vieitez, Robert A, CMSgt , 353 SOMXS/MXM, 634-8829

Ybarra, Eddie C, TSgt , 353 SOG/OGQ, 634-8314





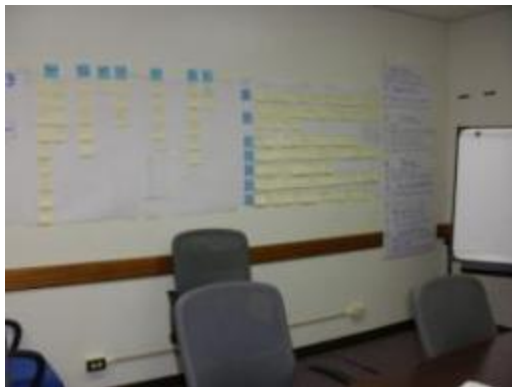
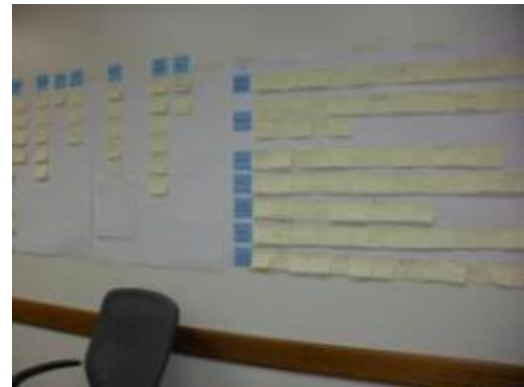
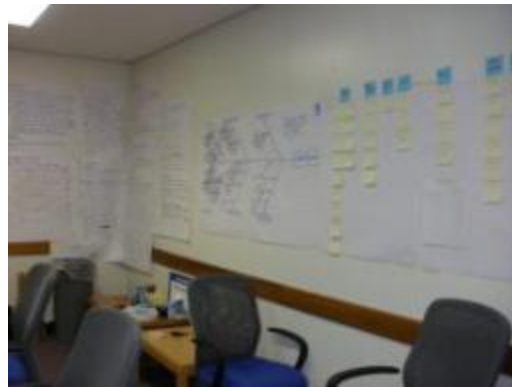
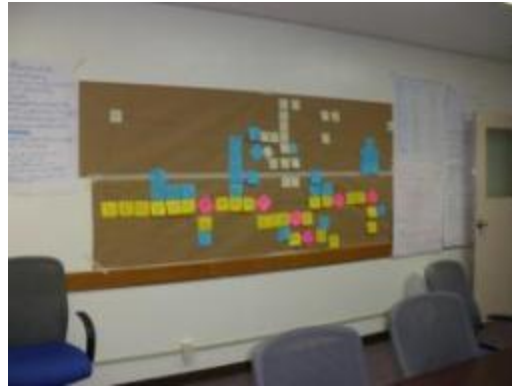
Team Members



MSgt Rory Cox, TSgt Teresa Blair, TSgt Jason Blehm, MSgt Derek Love, SSgt Carl Paul, Capt Craig Perleberg, Capt Keith Melvin, TSgt Eddie Ybarra



Event Room (Day 4)





AFSO 21 Event Team Training

- **The team received 3 hours of AFSO 21 / Lean training relevant to the event**
- **Topics included...**
 - **Seeing the Value Stream**
 - **Eight Wastes**
 - **Value Added vs. Non-Value Added**
 - **Change**
 - **Measurements/Metrics**
 - **Lean Basics**
 - **Voice of the Customer**
 - **Visual Management**
 - **Standard Work**
 - **Theory of Constraints**

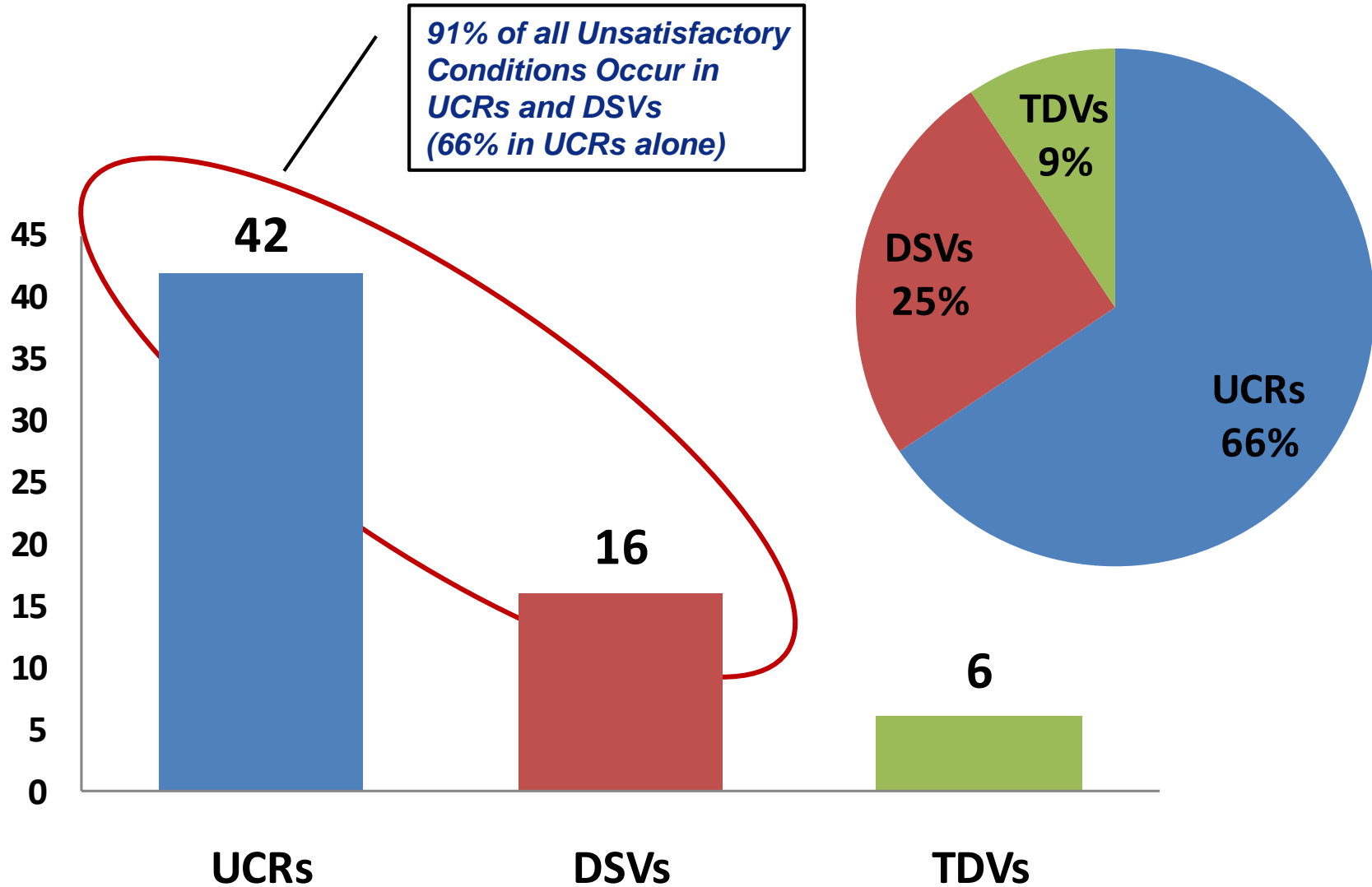


8 Step Problem Solving Process

- **Clarify & Validate the Problem**
- **Break Down the Problem and Identify Performance Gaps**
- **Set Improvement Target**
- **Determine Root Cause**
- **Develop Countermeasures**
- **See Countermeasures Through**
- **Confirm Results & Process**
- **Standardize Successful Processes**

Unsatisfactory Conditions Pareto

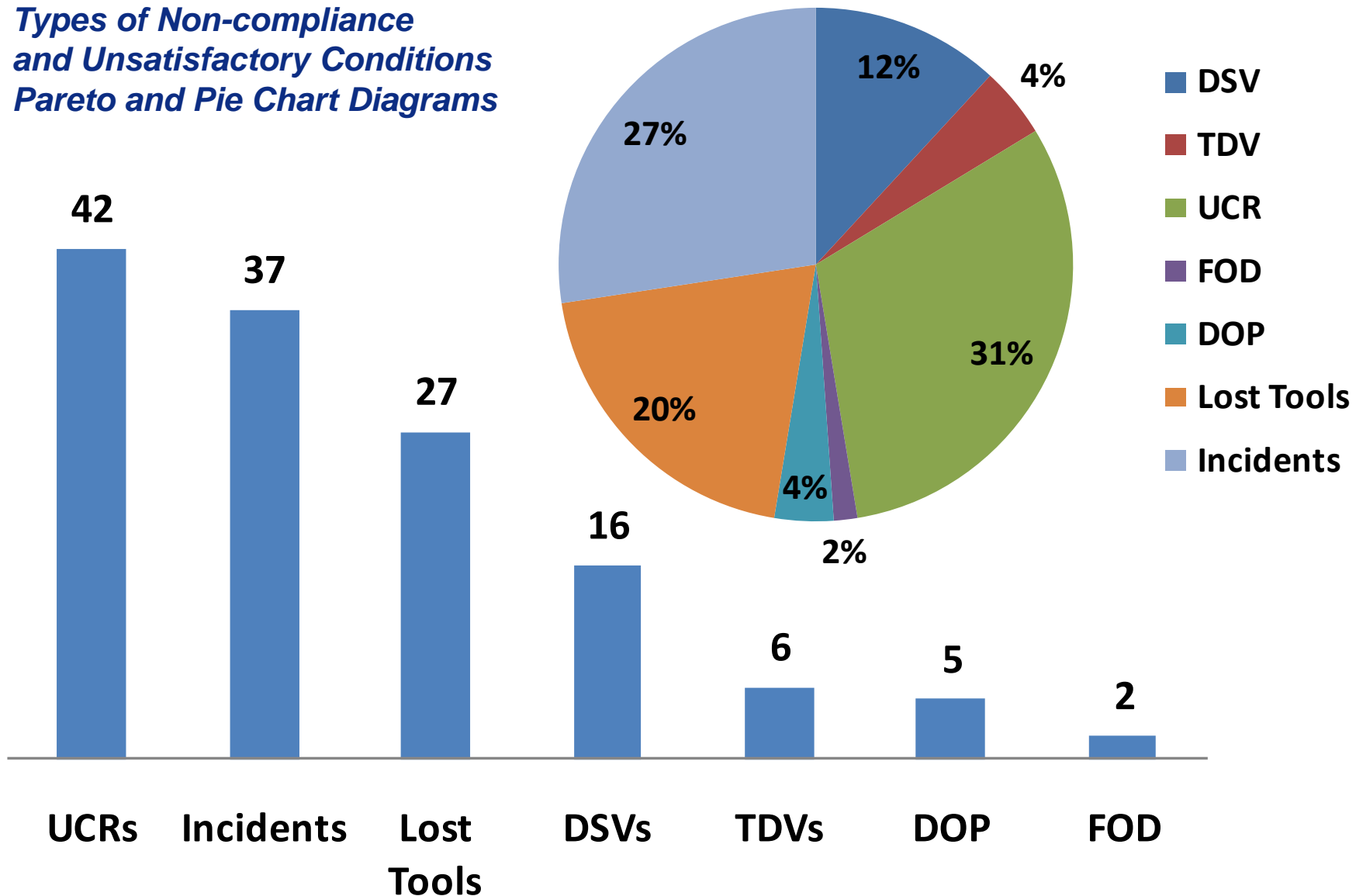
Oct 09 – Oct 10





Unsatisfactory Conditions (All Categories)

*Types of Non-compliance
and Unsatisfactory Conditions
Pareto and Pie Chart Diagrams*

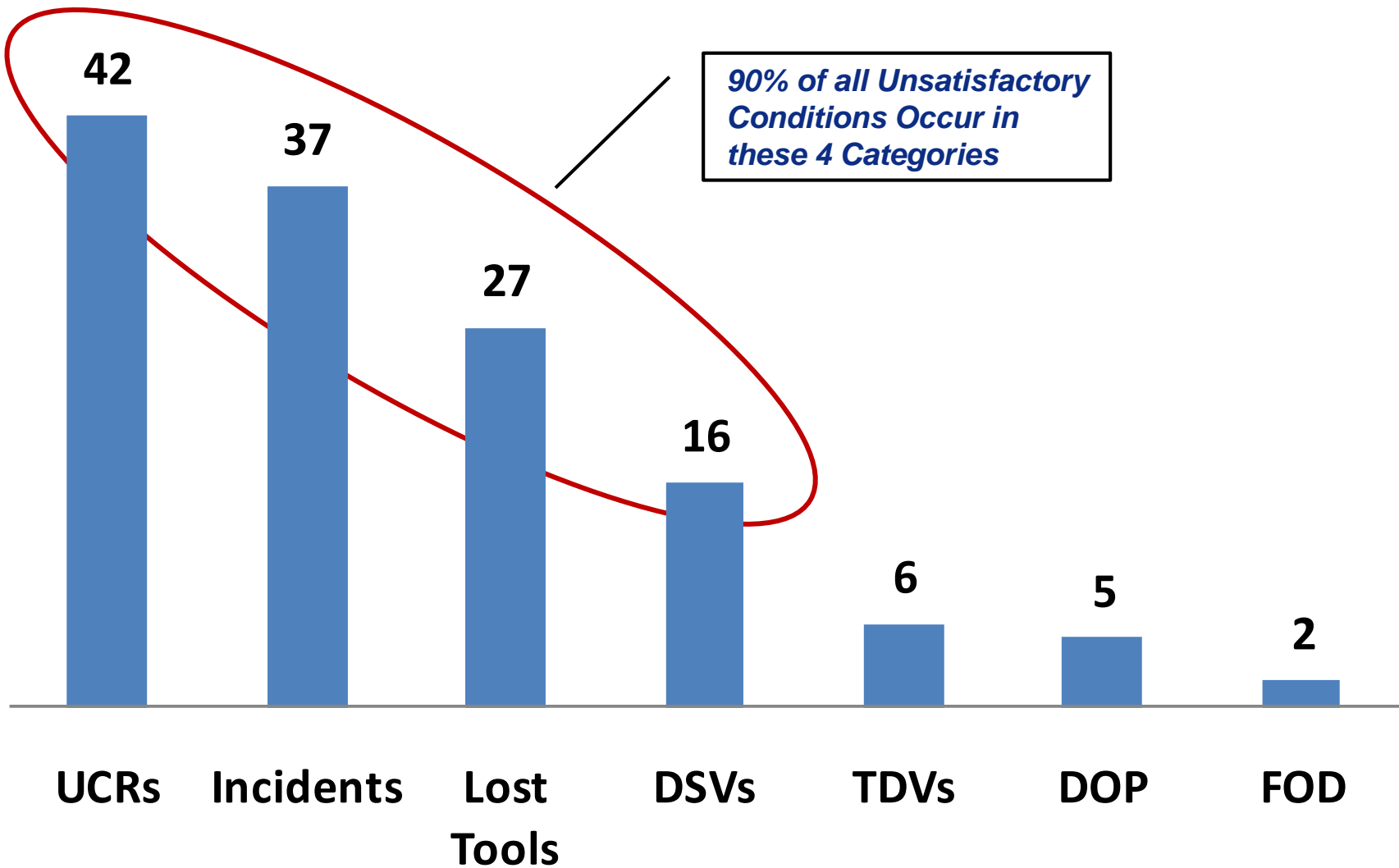


Statistical and Sigma Calculations

	Monthly Inspections	DSV's	TDV's	UCR's	FOD	DOP	Lost Tools	Incidents
Oct '09	133	0	1	4	0	0	3	1
Nov '09	145	0	0	2	0	0	1	2
Dec '09	152	2	1	1	0	0	2	4
Jan '10	135	0	1	2	0	1	1	4
Feb '10	136	2	0	2	1	0	7	0
Mar '10	160	1	1	4	0	2	2	8
Apr '10	156	4	0	9	0	0	3	9
May '10	132	0	0	1	0	0	1	5
Jun '10	182	1	0	2	0	0	2	1
Jul '10	170	1	0	2	1	0	2	1
Aug '10	167	3	2	13	0	2	2	1
Sep '10	148	2	0	0	0	0	1	1
Total	1816	16	6	42	2	5	27	37
% of Total Inspections		0.88%	0.33%	2.31%	0.11%	0.28%	1.49%	2.04%
% Yield		99.12%	99.67%	97.69%	99.89%	99.72%	98.51%	97.96%
Defects Per Million		8811	3304	23128	1101	2753	14868	20374
Process Sigma Level		3.87	4.22	3.49	4.56	4.28	3.67	3.55
Mean	151.33	1.33	0.50	3.50	0.17	0.42	2.25	3.08
Median	150	1	0	2	0	0	2	1.5
Mode	#N/A	0	0	2	0	0	2	1
Min	132	0	0	0	0	0	1	0
Max	182	4	2	13	1	2	7	9
Variance	263.15	1.70	0.45	14.27	0.15	0.63	2.75	8.81
Std Dev	16.22	1.30	0.67	3.78	0.39	0.79	1.66	2.97

Unsatisfactory Conditions Pareto

Oct 09 – Oct 10

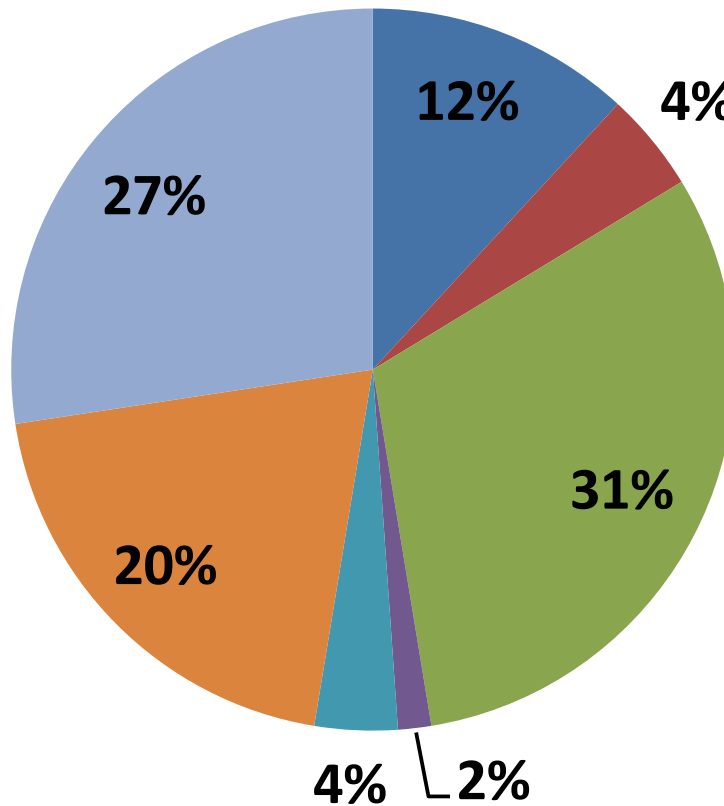




Unsatisfactory Condition Breakout

Oct 09 – Oct 10

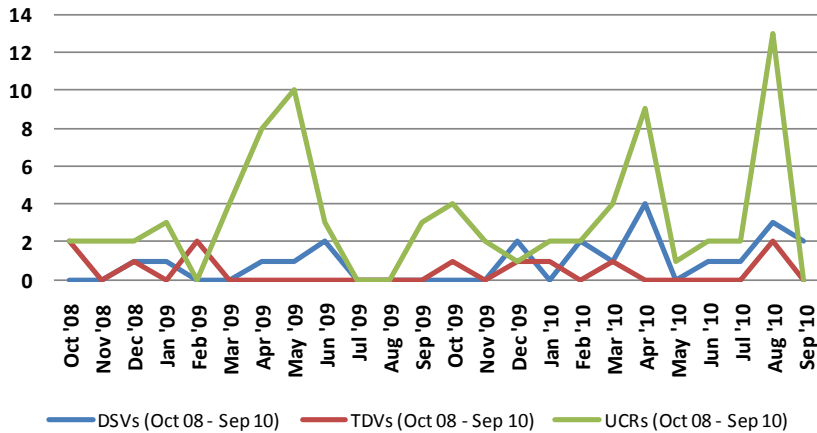
■ DSV ■ TDV ■ UCR ■ FOD ■ DOP ■ Lost Tools ■ Incidents



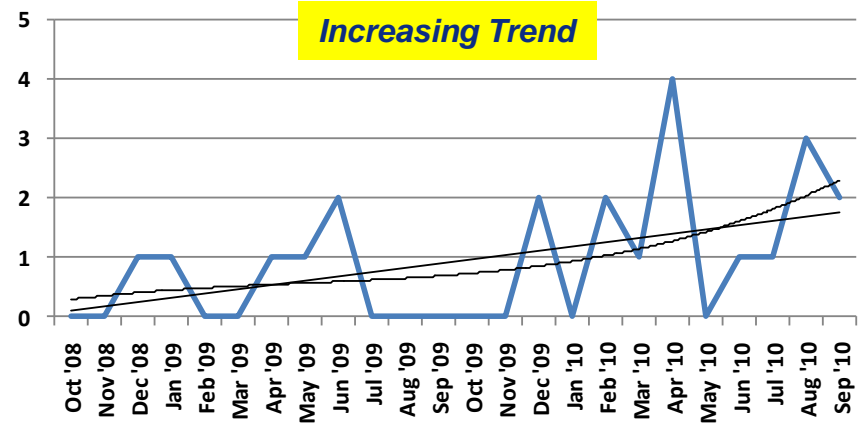


DSV, TDV, UCR 2-Year Lookback

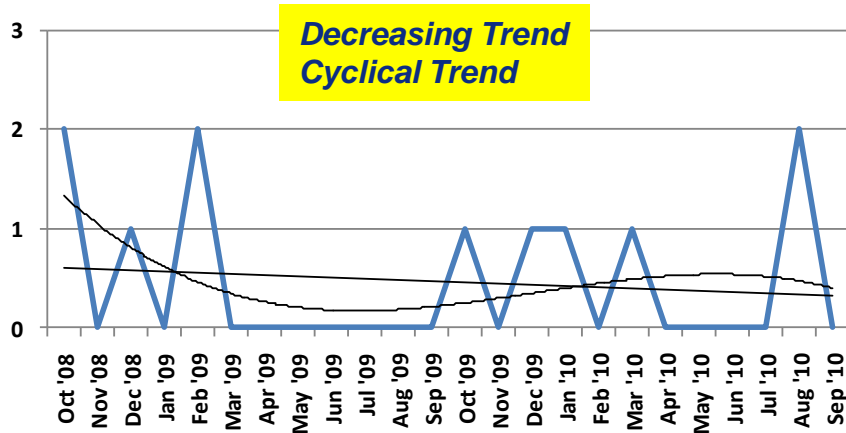
DSVs, TDVs, UCRs (Oct 08 - Sep 10)



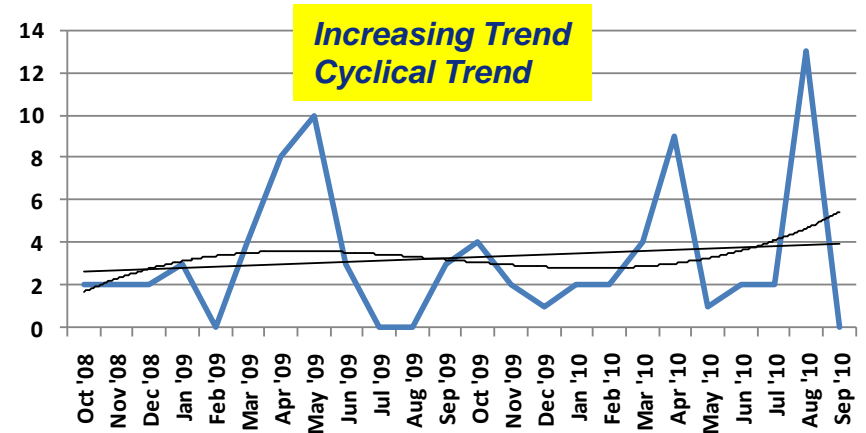
DSVs (Oct 08 - Sep 10)



TDVs (Oct 08 - Sep 10)



UCRs (Oct 08 - Sep 10)

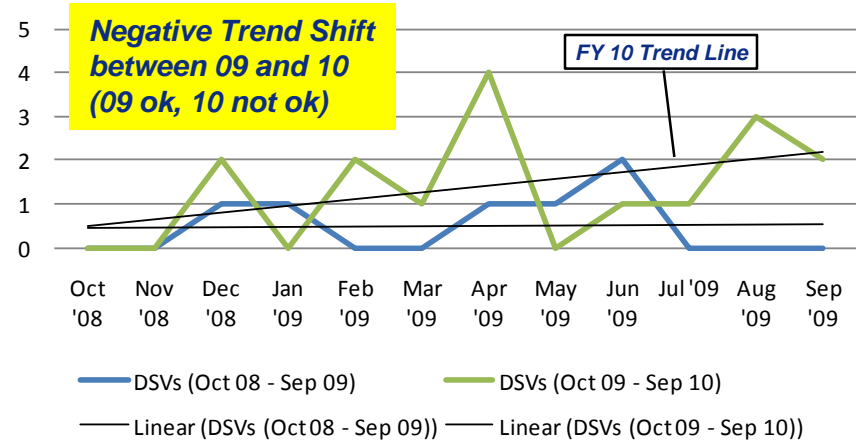




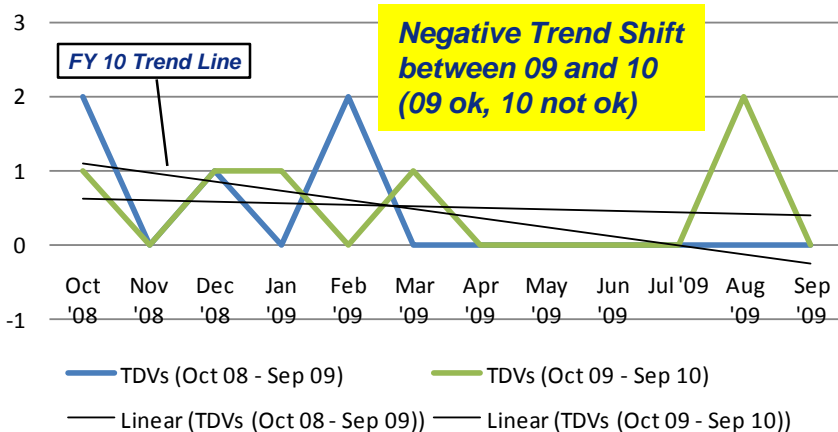
DSV, TDV, UCR 2-Year Comparison

For all three areas (DSV, TDV, and UCR) the FY 10 trends are worse than the FY 09 trends.

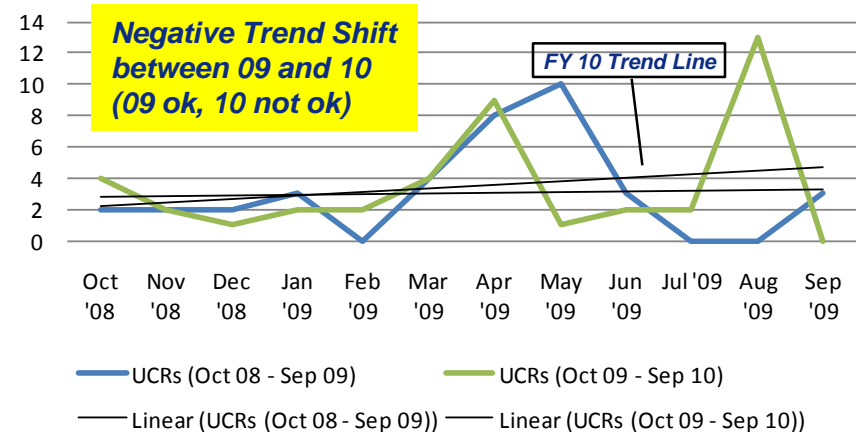
DSV Comparison (FY 09 - FY 10)



TDV Comparison (FY 09 - FY 10)

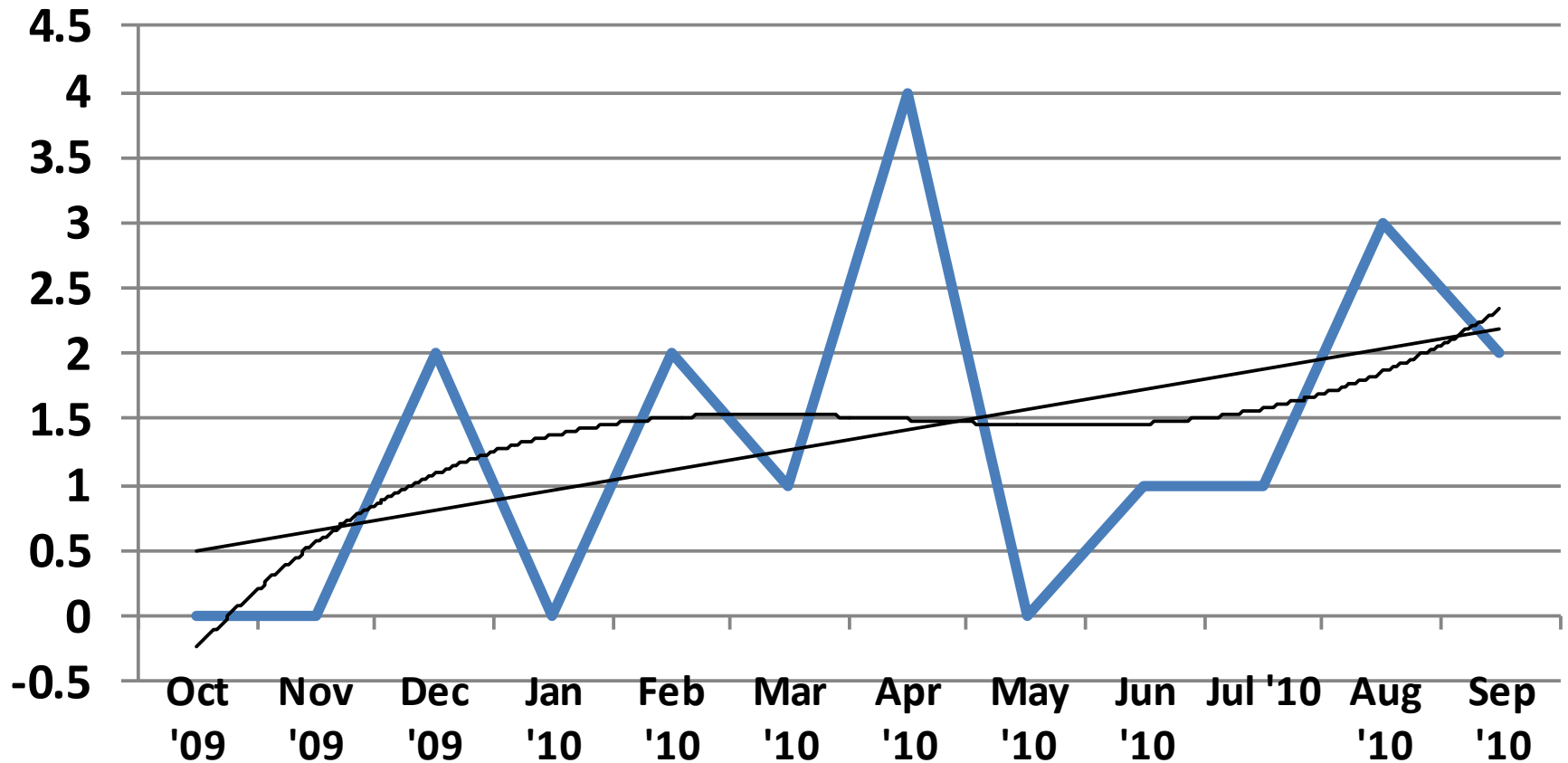


UCR Comparison (FY 09 - FY 10)



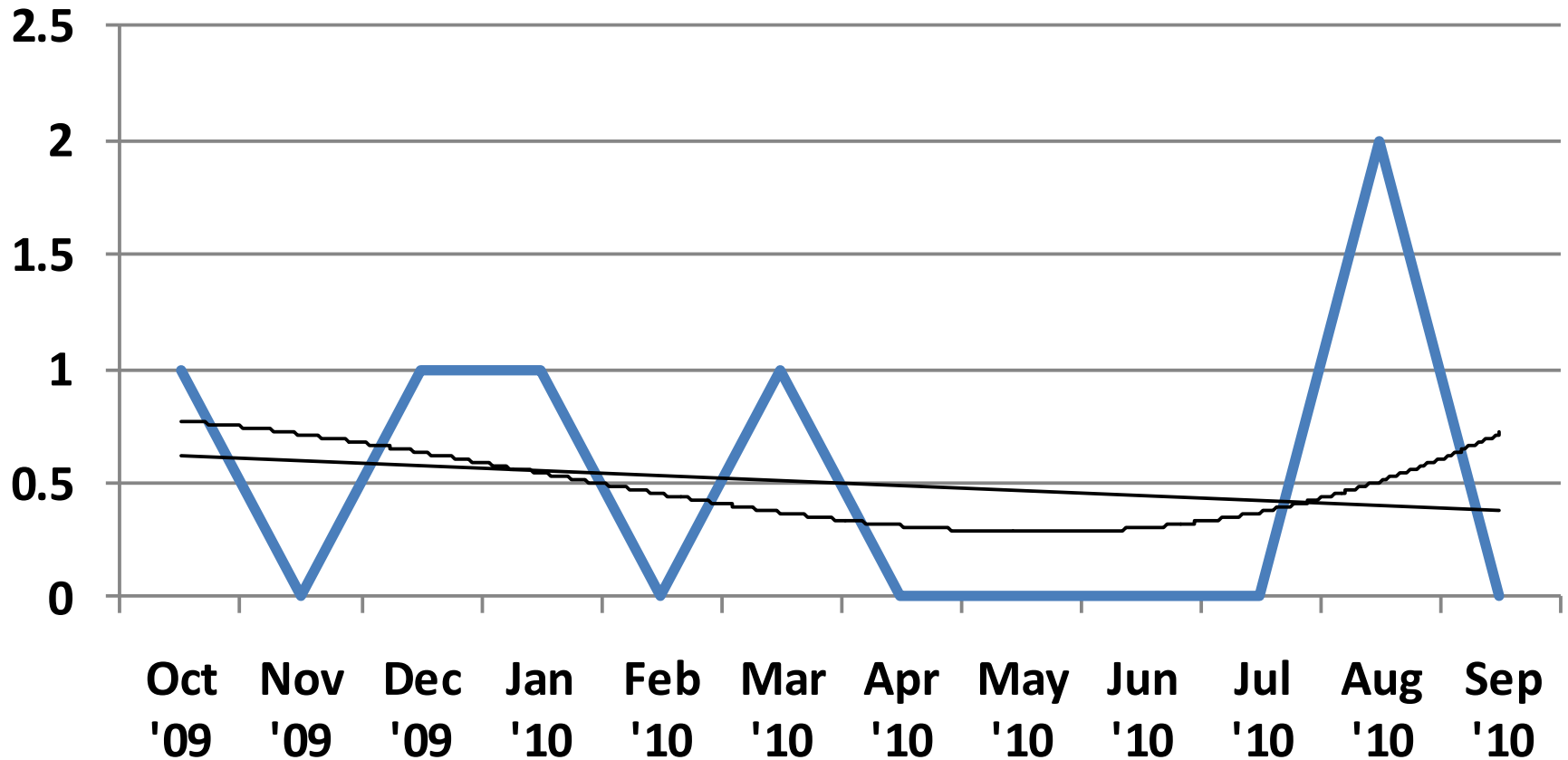
DSVs - Oct 09 – Oct 10

DSV



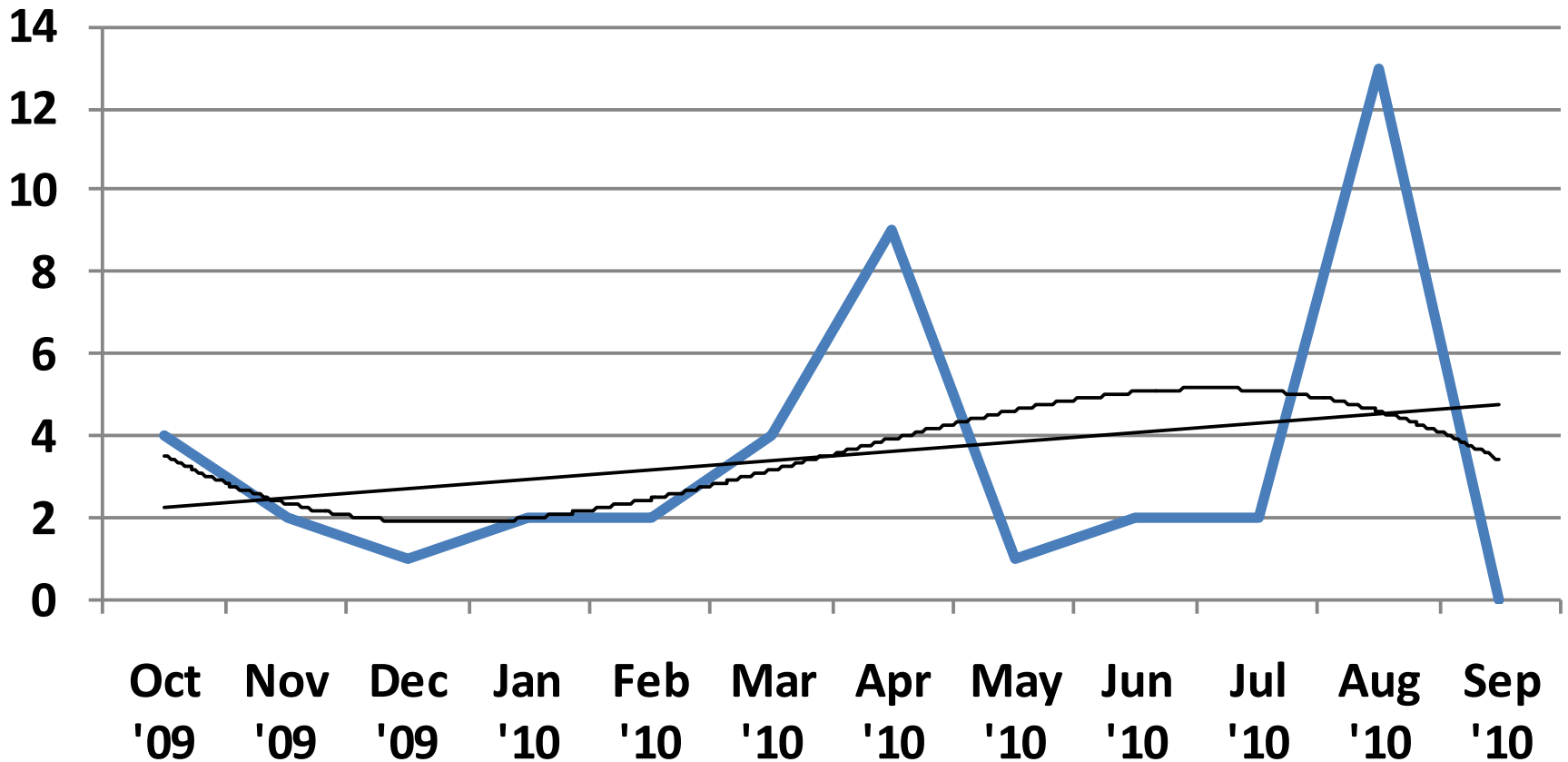
TDVs - Oct 09 – Oct 10

TDV



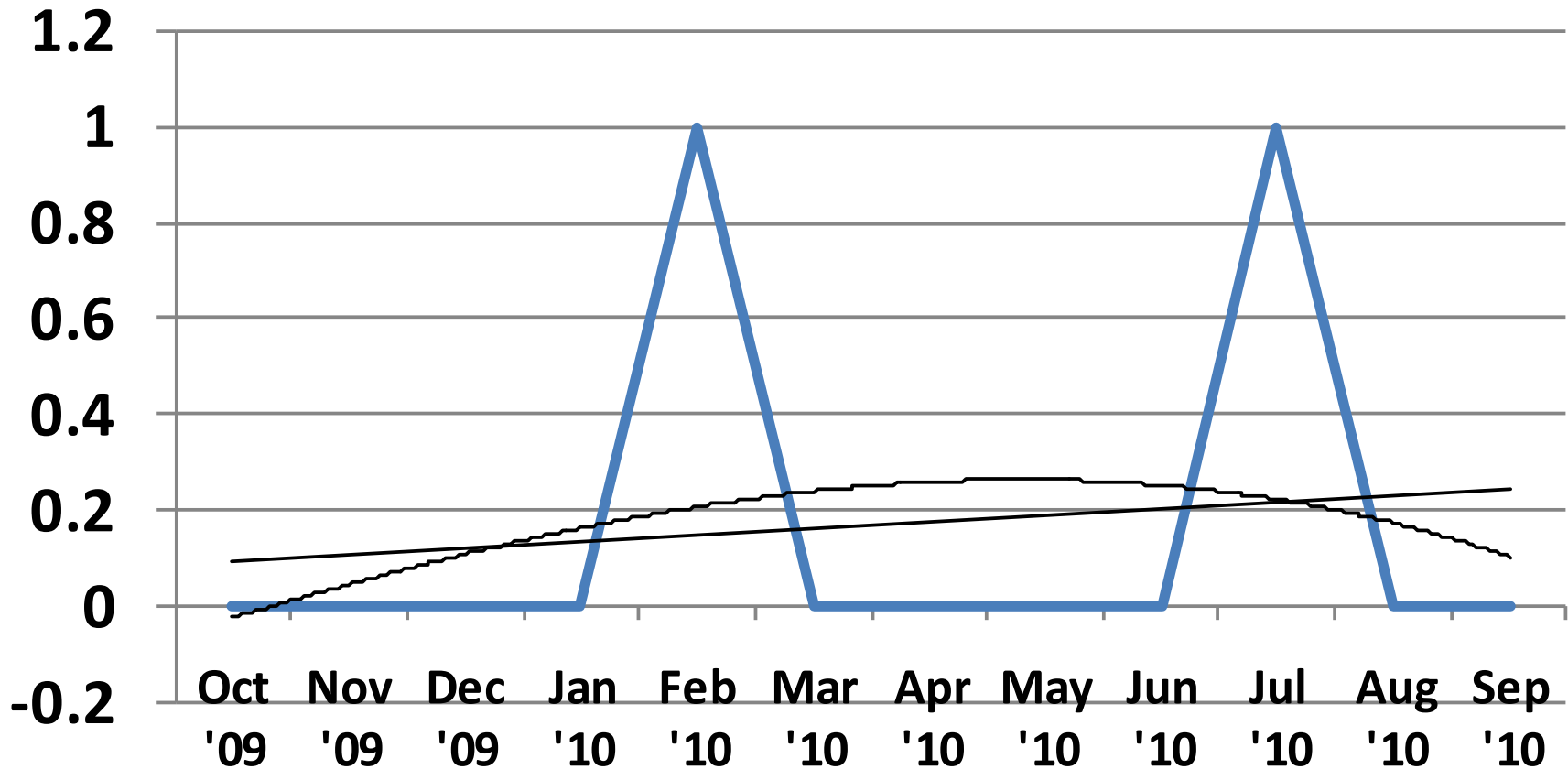
UCRs - Oct 09 – Oct 10

UCR



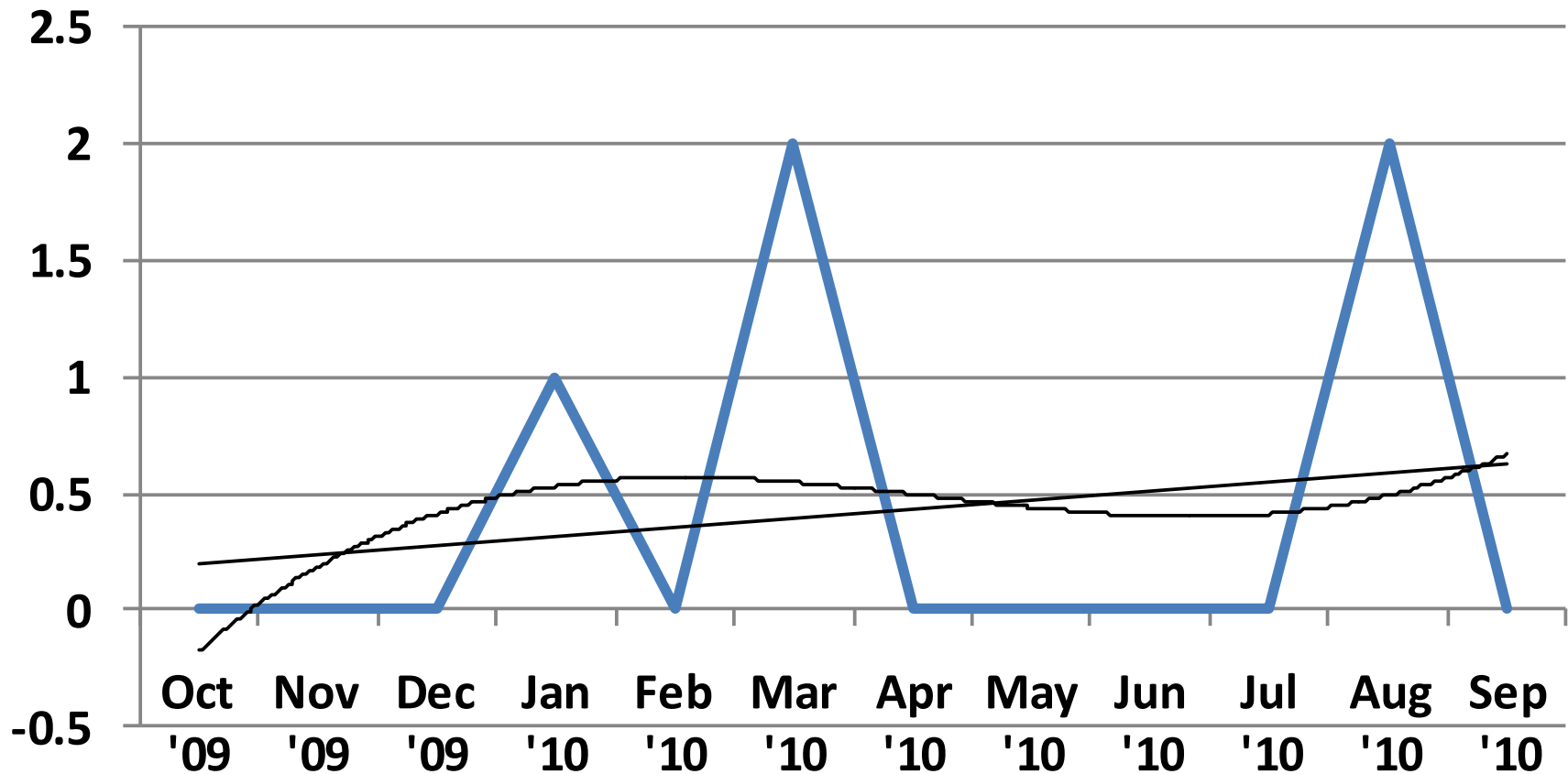
FOD - Oct 09 – Oct 10

FOD



DOP - Oct 09 – Oct 10

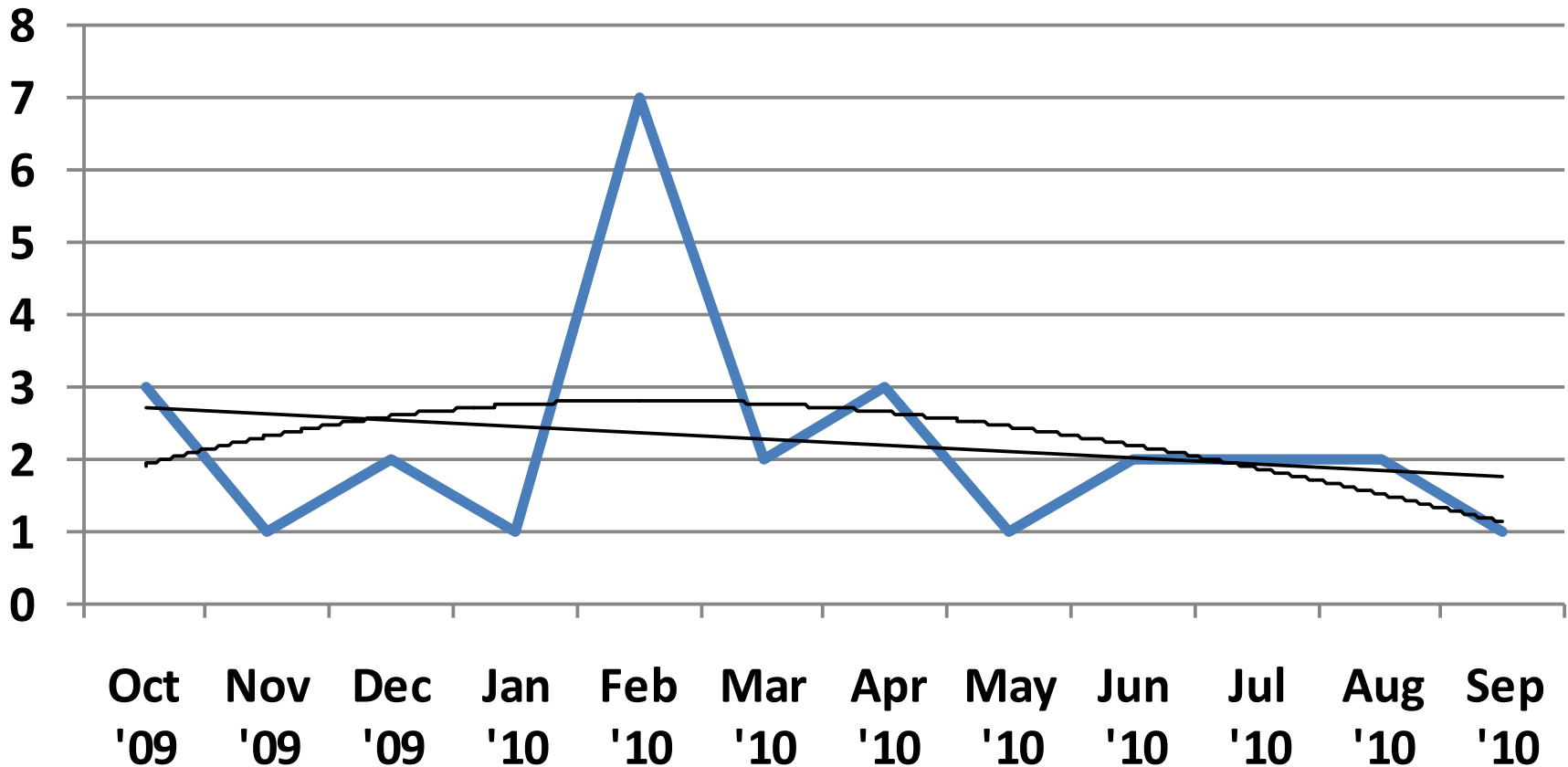
DOP



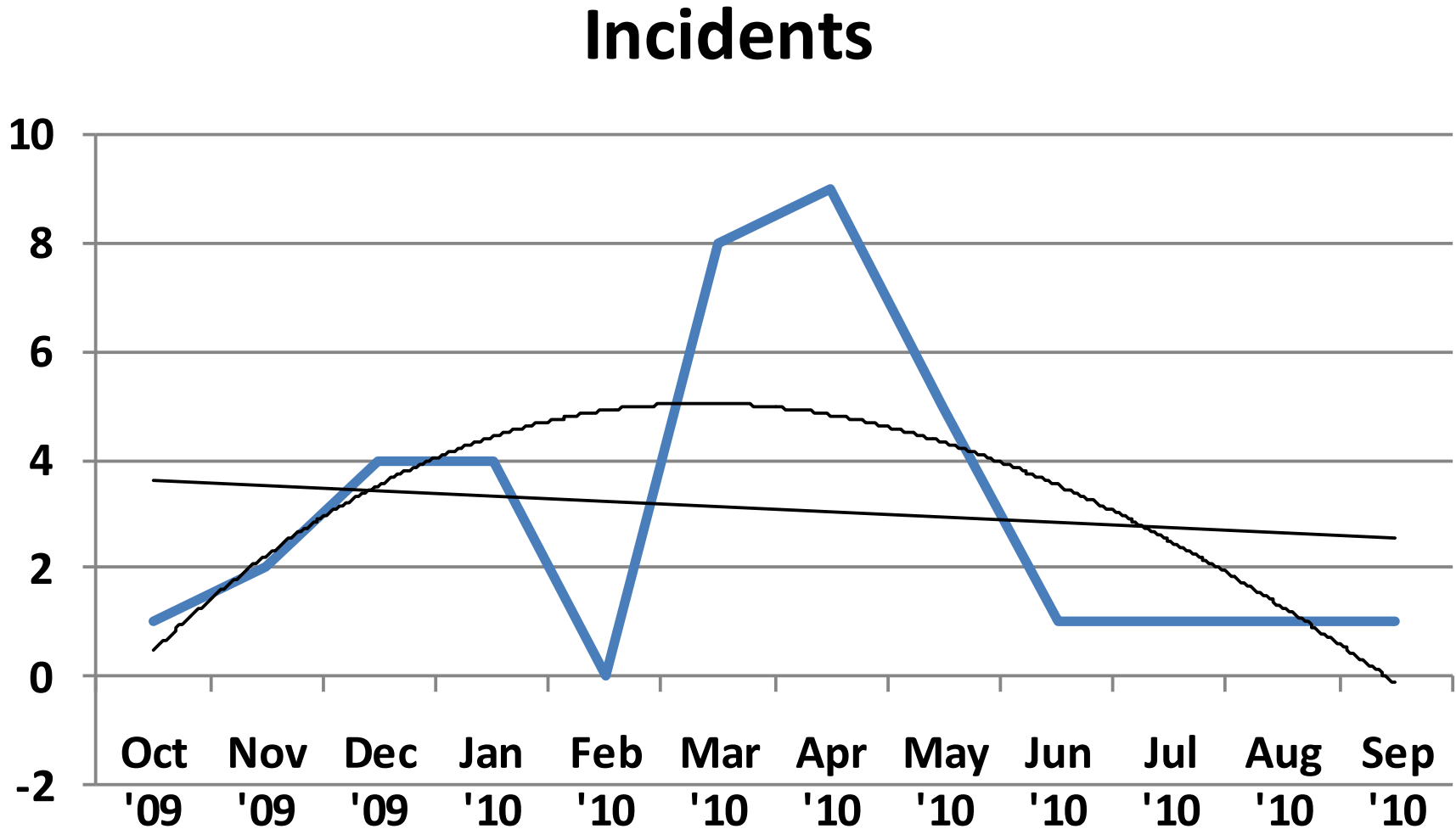
Lost Tools - Oct 09 – Oct 10



Lost Tools



Incidents - Oct 09 – Oct 10





Go See

(Process Walk Observations)

- 1* - Transportation (travel, travel time, vehicles)
- 2* - Tool availability (accessibility)
- - Motion (layout)
- 3* - Waiting (for transportation, 5 people max allowed in the CTK at a time)
- - Excess inventory (extra bench stock, supplies, etc.)
- 4* - Computers (account, access, availability, printers)
- - Locker rooms (several different locations)
- - Space utilization (some areas vacant, some over crowded)

Notes:

- 1. may lead to rushing, may lead to tool availability
- 2. may lead to not using the right tool
- 2. may lead to leaving tools unsecured, and not doing FOD checks
- 3. rushing to do the job, inefficient process
- 4. may lead to mistakes, not doing paperwork, or turning the computer documentation over to the next shift

8-Wastes

Defects

Overproduction

Waiting

Non-Standard and Over-processing

Transportation

Injuries, Inventory, Intellect

Motion

Excess Inventory

Go See - Maintenance Facilities and Approximate Driving Times





Voice of the Customer (VOC)

- Suffering from production being on track in a reliable/consistent fashion
- DSVs, TDVs, UCRs, Mx capability rates fluctuating, late takeoffs, at least six major incidences over the past few months
- Afraid of a catastrophic event
- Need to ID root cause
- Eliminate the causes through a plan/process
- Since the LCAT visit there have been lingering problems in Maintenance Squadron
- Trouble in production, and sortie generation
- 6 to 9 months of unacceptable level of UCR, DSV, and TDVs
- Concerned - standards, accepted norm
- Maintenance scheduling is also a problem, eg overdue scheduled maintenance inspections
- Fear we do not have the right level of supervision on the line, looking over the shoulder, follow-ups, etc
- Rarely have an aircraft take off on time
- Erratic Mission Capable Rate
- Not really meeting pilot currency (RAP), or pilot proficiency needs
- Cannot continue the way we are going
- Need to identify how to reduce UCR, DSV, and TDVs and sort of look at production as a whole
- Lead to a path of cleanup
- Concerned - eventually something bad is going to happen

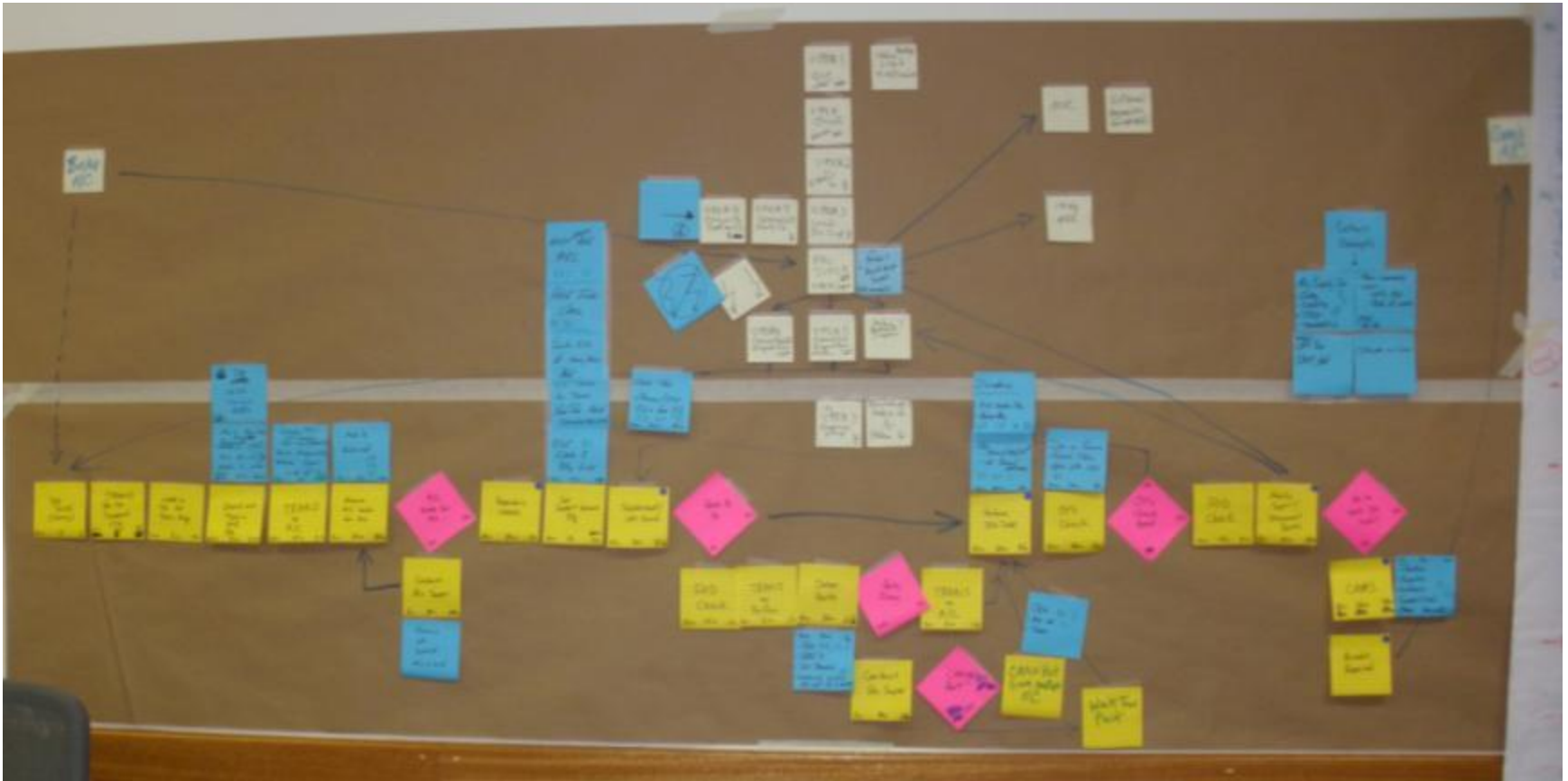
SIPOC

Suppliers	Inputs	Processes	Outputs	Customers
<ul style="list-style-type: none"> •<u>LRS</u> •<u>CTK</u> •AFSOC •SPO •18 WG •On-Site Engineers •AFETS •<u>18 MXG</u> •Tech School 	<ul style="list-style-type: none"> •<u>Parts</u> •<u>Training</u> •Money •<u>Equipment</u> •Support •People •Aircraft •Engineering Support •Pilots •12-Hour Days •<u>T.O.s</u> •Vehicles •<u>Tools</u> •Fuel •MPF Support •Buildings •Communication s •Computers 	<ul style="list-style-type: none"> •<u>Generation</u> •Special Inspections •Upgrade Training •Documenting Forms •Scheduled Maintenance •Aircraft Scheduling •QA Inspections •Emergency Action Checklists •TARs •Meetings •2407s •ERs •BPO/Pre •Troubleshooting •<u>Fixing Aircraft</u> •Crew Ready •Shift Change •Form 22s •Red Balls •Exercises 	<ul style="list-style-type: none"> •Missions •Sorties •Dirty Work •MC Aircraft at a Moment's Notice •Scheduled Maintenance •<u>Safe and Reliable Aircraft</u> •Training (Ops) •Training (Mx) •FOD Inspections 	<ul style="list-style-type: none"> •Army •Seal Teams •SOCPAC •SOCKOR •Other Countries •Humanitarian •Terrorists •33rd, 31st •Ops •<u>Pilots/Aircrew</u> •SOG Commander •AFSOC •Ourself

The 353rd Special Operations Group Aircraft Maintenance Squadron employs training, tools, parts, equipment, and technical data to generate and repair aircraft which are safe and reliable for our pilots and aircrew.

Value Stream Map

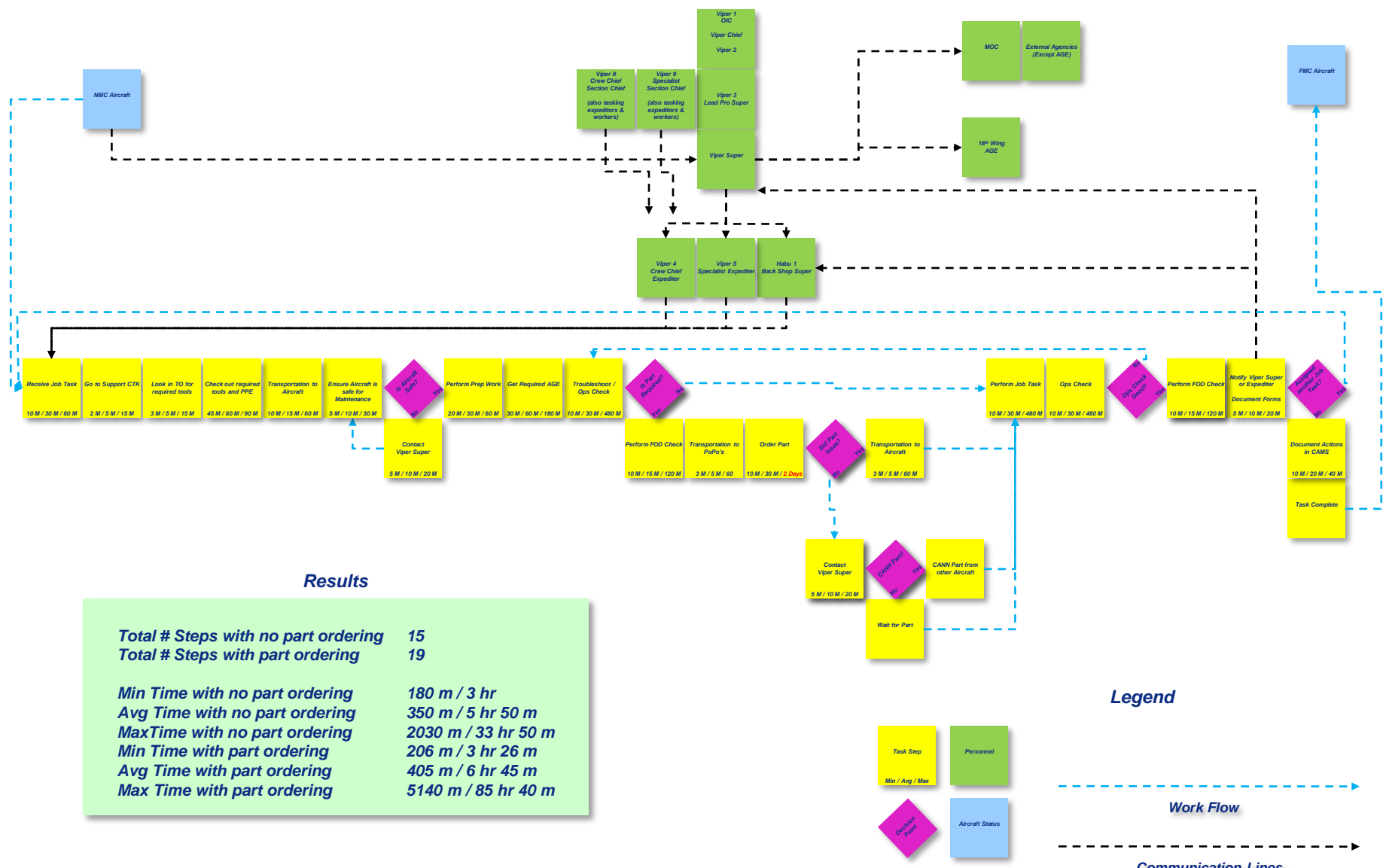
(Current State with Future State Improvements)





Current State Value Stream Map

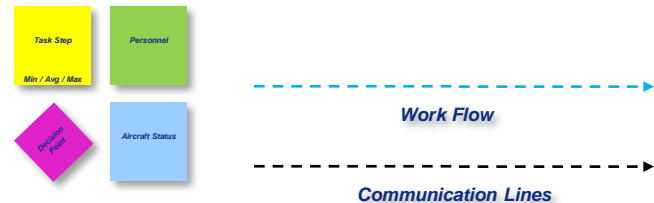
353rd SOG Typical Maintenance Action



Results

Total # Steps with no part ordering	15
Total # Steps with part ordering	19
Min Time with no part ordering	180 m / 3 hr
Avg Time with no part ordering	350 m / 5 hr 50 m
Max Time with no part ordering	2030 m / 33 hr 50 m
Min Time with part ordering	206 m / 3 hr 26 m
Avg Time with part ordering	405 m / 6 hr 45 m
Max Time with part ordering	5140 m / 85 hr 40 m

Legend





Data Collection for Analysis

- Where most DSVs, ... are coming from, i.e. 3 lev, 5 lev, etc.
- Location (where are they happening)
- What shift
- What sections
- Whether aircraft, people, or equipment related
- How many people involved (per incident)
- Repeats
- Trends
- Nature of responses (value, excuses, cut and paste responses)
- Comparison data (top 3 metrics)
- Historical data (last year's DSV, TDV, and UCR data) (top 3 metrics)
- Ops tempo
- Training data
- Health of Fleet (HOF) data
- Number of Quality Assurance (QA) inspections per month
- Number of maintenance actions per month
- * Number of DSVs - total for the year and per month
- * Number of TDVs - total for the year and per month
- * Number of UCRs - total for the year and per month
- * List of trends (and criteria)
- FOD
- DOP
- Lost tools (and recovery rate)
- Incidents (fuel spills, vehicle accidents, aircraft damage, personnel injuries, etc.)

NOTE: * = Key Performance Indicator

Health of Fleet – Performance Against Command Standards

For the period Sep 09 - Oct 10 (6 months or more over the year)

INDICATOR	TALON	SHADOW
MC Rate	NO	NO
TNMCM	NO	NO
TNMCS	YES	YES
FSE	NO	NO
Air Aborts	YES	YES
Ground Aborts	YES	YES
Break Rate	NO	NO
12-Hour Fix Rate	NO	NO
Cann Rate	YES	NO
Repeat Recur	YES	YES
Maint Scheduling Effectiveness	YES	YES



Data Analysis

Location (where DSV, TDV, and UCRs are happening)

- (33) Lima Row
 - (24) Hangar
- 57 out of 69 - 82.6%

Repeats (2 occurrences)

- No tech data (inlet/exhaust inspection)
- Personal electronic devices (cell phone, ipod, etc.)

How Many People Involved (per incident)

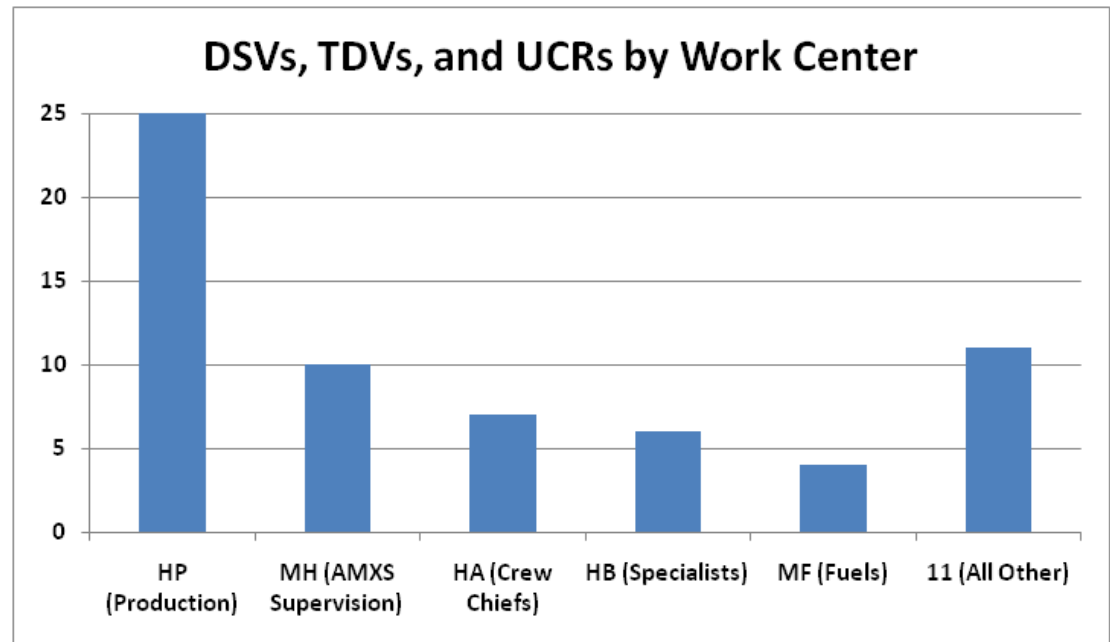
- 53-1; 11-2; 3-3; 0-4; 1-5



Data Analysis

What Sections (which work centers are having the DSV, TDV, and UCRs)

- (25) HP (Production) 1-DSV, 24-UCR
- (10) MH (AMXS Supervision) 2-DSV, 1-TDV, 6-UCR
- (7) HA (Crew Chiefs) 2-DSV, 1-TDV, 4-UCR
- (6) HB (Specialists) 5-DSV, 1-TDV
- (4) MF (Fuels) 3-DSV, 1-UCR
- (11) All Other

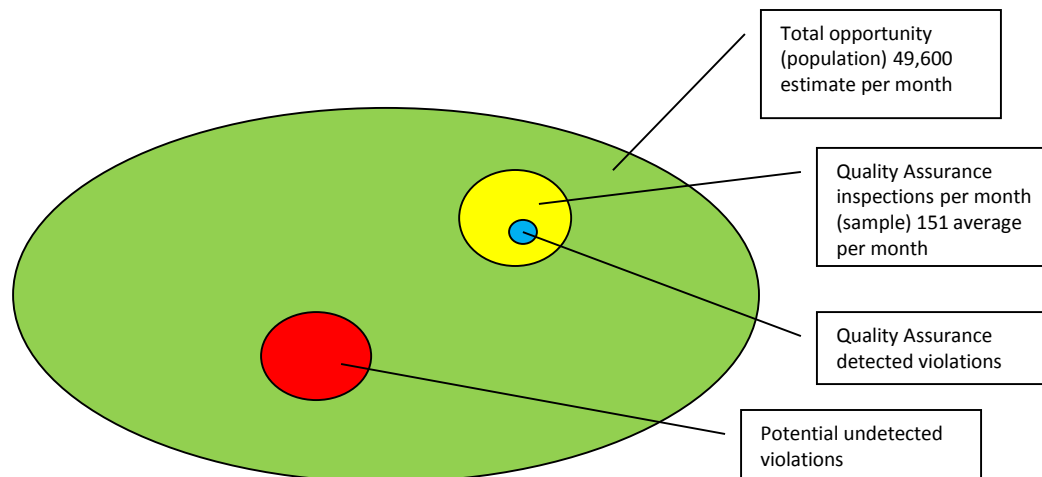




ORM/MRM Notional Risk Assessment

Opportunities for DSVs, TDVs, and UCRs (month) (notional estimate)

• Monthly maintenance actions	3,100 (actual average CAMS transactions per month)
• Checking out tools	3,100
• Checking in tools	9,300
• Aircraft safe for maintenance	6,200
• Forms documentation	6,200
• Disruptions (to/from)	6,200
• Power on	15,500
• Total	49,600 per month





ORM/MRM Notional Risk Assessment

Opportunities for DSVs, TDVs, and UCRs		
Monthly maintenance actions	3,100	average number of CAMS transactions per month
Checking out tools	3,100	
Checking in tools	9,300	
Aircraft safe for maintenance	6,200	
Forms documentation	6,200	
Disruptions (to/from)	6,200	
Power on	15,500	
Total	49,600	per month (total opportunities)
Average number of QA Inspections per Month	151	avg for FY 10
Number of detected conditions (DSV, TDV, UCR)	64	total in FY 10
Rate	42.38%	QA finds something 42% of the time
Number of undetected conditions (FOD, DOP, Lost Tools, and Incidents) which missed first and subsequent pass controls	71	
Potential number of undetected conditions that existed and were not caught on the first pass (first pass meaning found by the individual, supervisor follow-up, or another person)	21022.52	
Number of un-inspected but controlled conditions (found by the individual, supervisor follow-up, or another person)	20951.52	
Inherent/built-in control rate (performance)	99.66%	Inherent processes prevent unsatisfactory conditions 99.7% of the time



ORM/MRM Notional Risk Assessment

Opportunities for DSVs, TDVs, and UCRs	Combined	FOD	DOP	Lost Tools	Incidents
Monthly maintenance actions	3,100	3,100	3,100	3,100	3,100
Checking out tools	3,100	3,100	3,100	3,100	3,100
Checking in tools	9,300	9,300	9,300	9,300	9,300
Aircraft safe for maintenance	6,200	6,200	6,200	6,200	6,200
Forms documentation	6,200	6,200	6,200	6,200	6,200
Disruptions (to/from)	6,200	6,200	6,200	6,200	6,200
Power on	15,500	15,500	15,500	15,500	15,500
Total	49,600	49,600	49,600	49,600	49,600

Note: FOD, DOP, Lost Tools, and Incidents are DSVs, TDVs, and UCRs that go undetected.

Average number of QA Inspections per Month	151	151	151	151	151
Number of detected conditions (DSV, TDV, UCR)	64	64	64	64	64
Rate	42.38%	42.38%	42.38%	42.38%	42.38%
Number of undetected conditions (FOD, DOP, Lost Tools, and Incidents) which missed first and subsequent pass controls	71	2	5	27	37
Potential number of undetected conditions that existed and were not caught on the first pass (first pass meaning found by the individual, supervisor follow-up, or another person)	21022.52	21022.52	21022.52	21022.52	21022.52
Number of un-inspected but controlled conditions (found by the individual, supervisor follow-up, or another person)	20951.52	21020.52	21017.52	20995.52	20985.52
Inherent/built-in control rate (performance)	99.66%	99.99%	99.98%	99.87%	99.82%
Risk	0.34%	0.01%	0.02%	0.13%	0.18%



Data Analysis

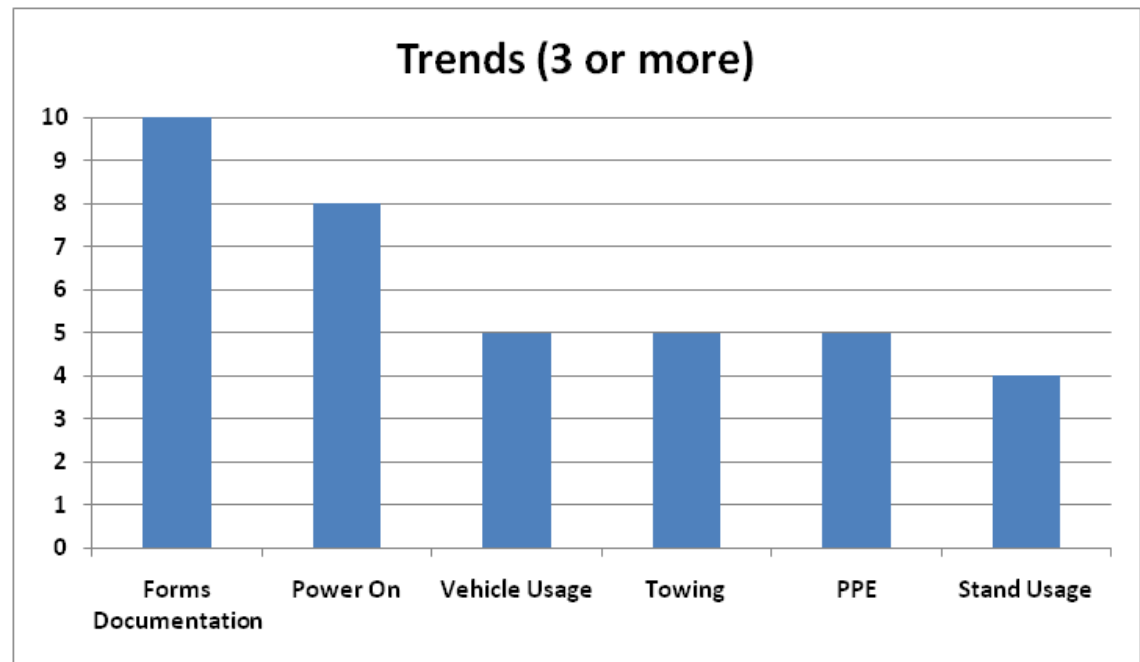
Trends (3 or more)

- 10 - Forms Documentation
- 8 - Power On
- 5 - Vehicle Usage
- 5 - Towing
- 5 - PPE
- 4 - Stand Usage

- 37 Total

- 69 Total Write-ups

- 54% are Trend Items

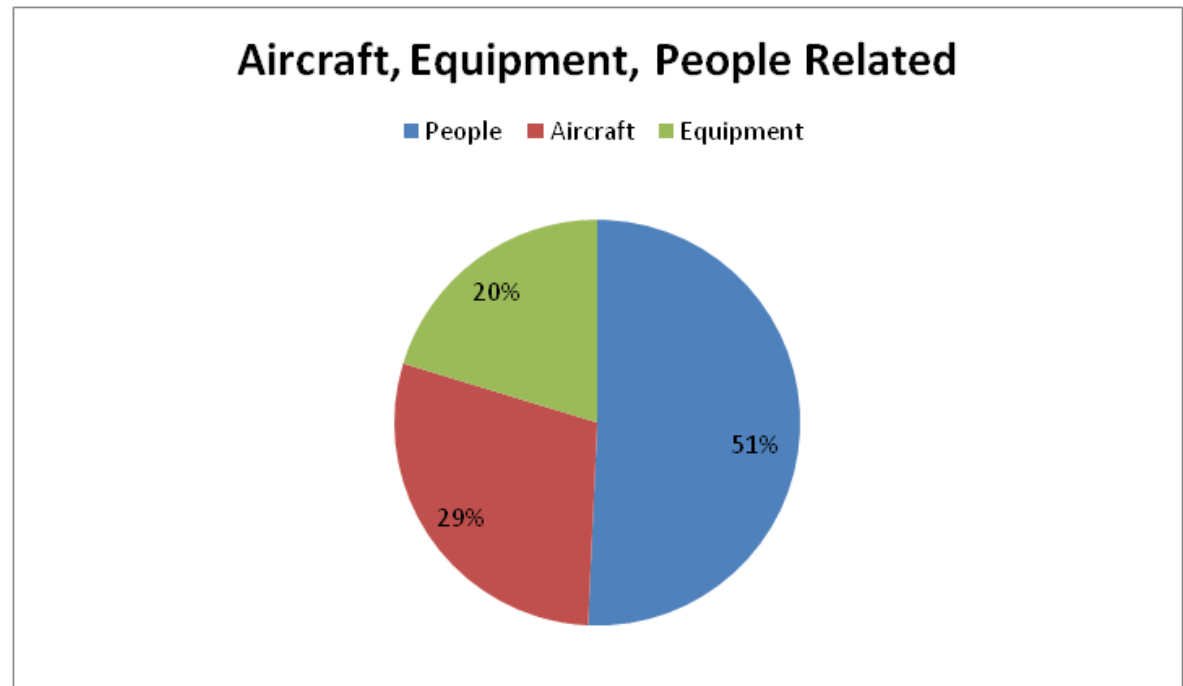




Data Analysis

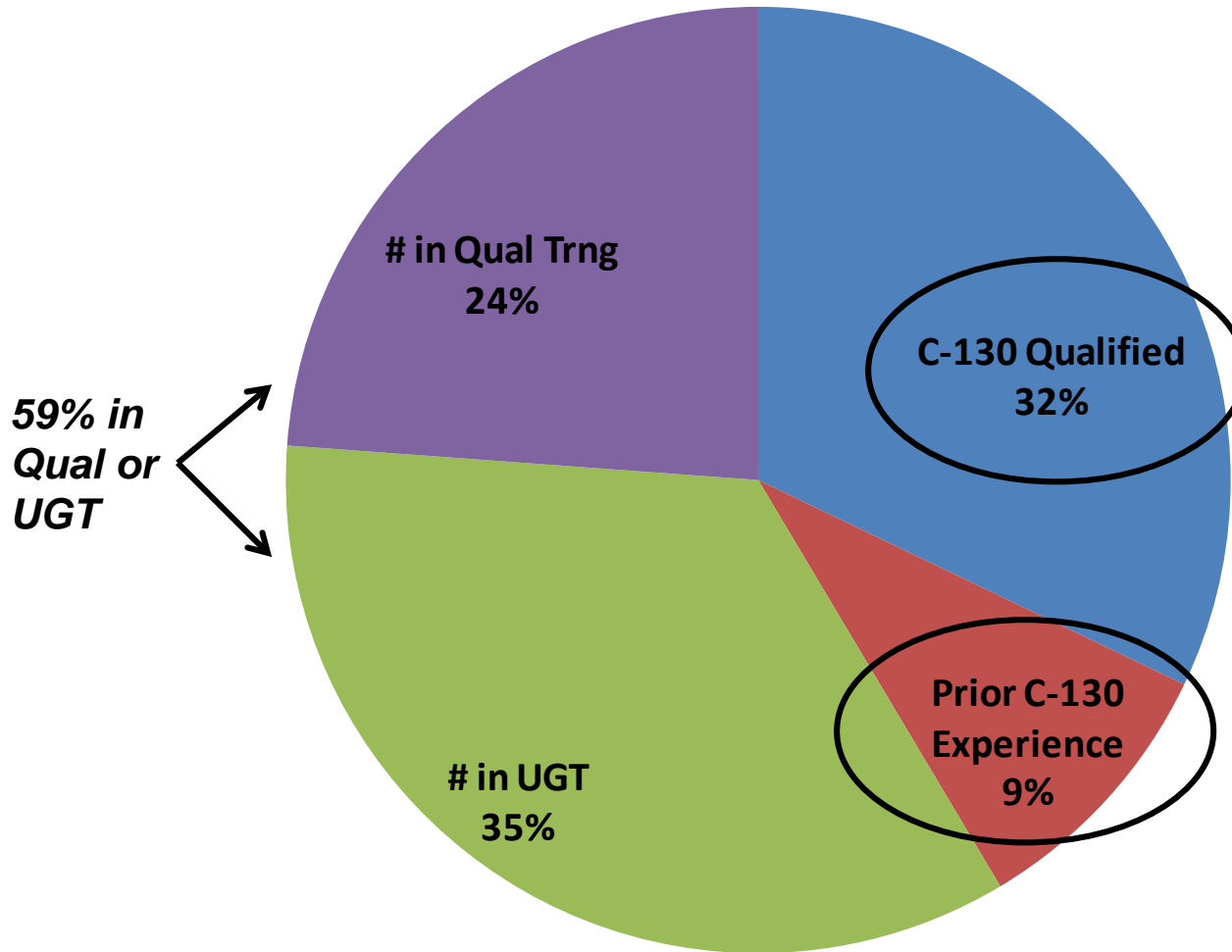
Aircraft, Equipment, or People Related

- 35 - People
- 20 - Aircraft
- 14 - Equipment



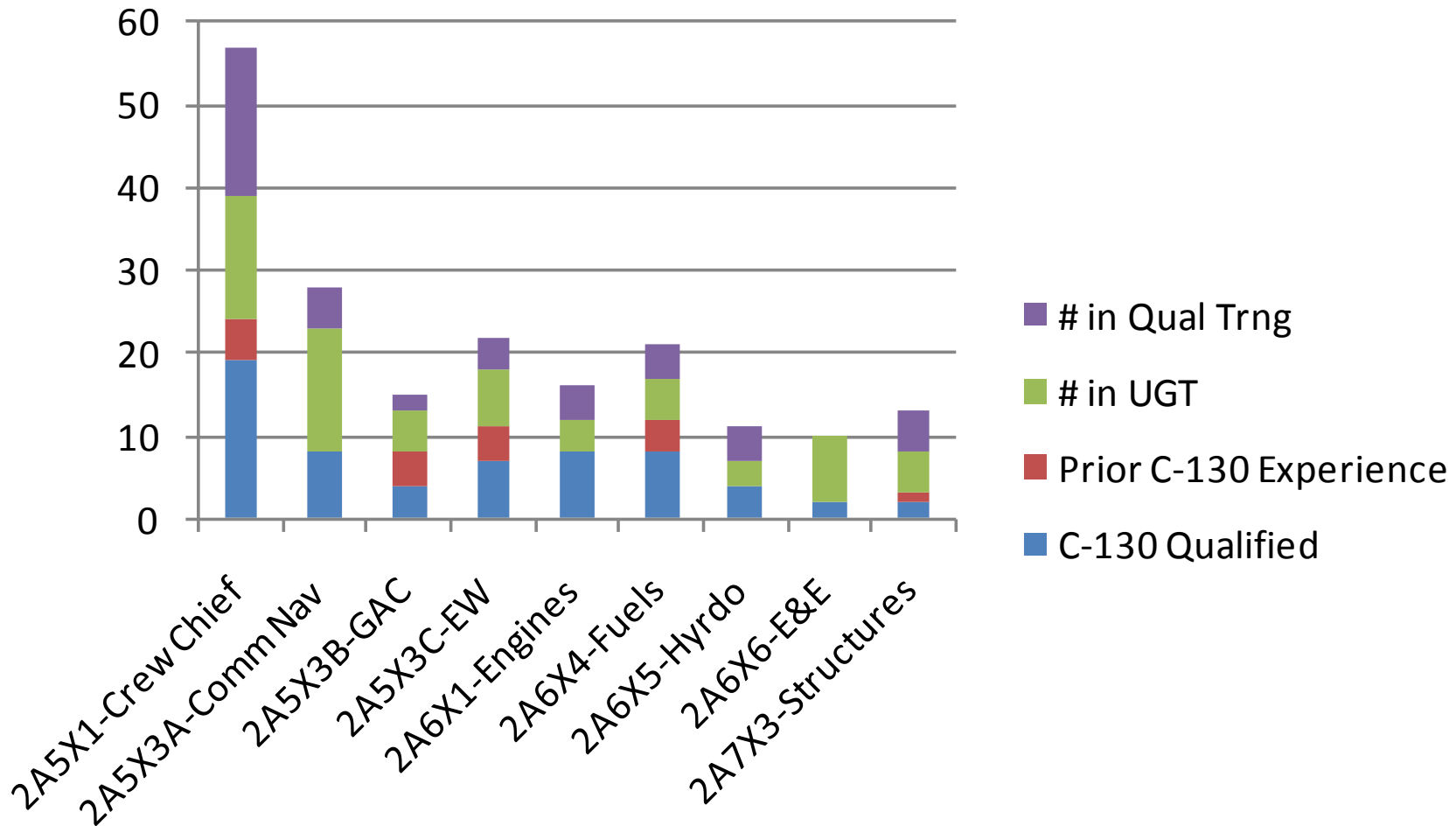
Data Analysis

Qualifications and Training



Data Analysis

Qualifications and Training





Data Analysis

Qualifications and Training

AFSC	Assigned	C-130 Qualified	Prior C-130 Experience	# in UGT	# in Qual Trng
2A5X1-Crew Chief	57	19	5	15	18
2A5X3A-Comm Nav	28	8	0	15	5
2A5X3B-GAC	11	4	4	5	2
2A5X3C-EW	18	7	4	7	4
2A6X1-Engines	16	8	0	4	4
2A6X4-Fuels	17	8	4	5	4
2A6X5-Hyrdo	11	4	0	3	4
2A6X6-E&E	10	2	0	8	0
2A7X3-Structures	13	2	1	5	5
Totals	181	62	18	67	46



Data Analysis

Percentage by AFSC in Upgrade Training

AFSC	# 5 Level	% 5 Level	# 7 Level	% 7 Level
2A5X1-Crew Chief	7	20%	8	21%
2A5X3A-Comm Nav	9	26%	6	15%
2A5X3B-GAC	3	9%	2	5%
2A5X3C-EW	5	14%	2	5%
2A6X1-Engines	0	0%	4	10%
2A6X4-Fuels	0	0%	5	13%
2A6X5-Hyrdo	2	6%	1	3%
2A6X6-E&E	2	6%	6	15%
2A7X3-Structures	3	9%	2	5%
2R0X1-Analysis	2	6%	2	5%
2S0X1-Supply	2	6%	1	3%
Total Enlisted Assigned	Total in 5 lvl	Total % 5 lvl in UGT	Total in 7 lvl	Total % 7 lvl in UGT
264	35	13%	39	15%



Data Analysis Manning

Total # of 2AXXX:

Auth-239/Assign-236

514-5lvl=69/7lvl=91

516-5lvl=70/7lvl=92

572-5lvl=69/7lvl=83

640-5lvl=7/7lvl=14

SEI

3lvl-Auth-35/Assign-35

5lvl-Auth-150/Assign-90

7lvl-Auth-51/Assign-108

9lvl-Auth-3/Assign-3

Legend:

514-HC-130P/MC-130P

572-Any C-130

516-MC-130H/W

640-T56



Performance Gap Analysis and Improvement Target

UNCLASSIFIED

Performance Gap

	Total	Avg/Month	% of Total	Standard	Gap
DSV	16	1.3	.9%	0	16
TDV	6	.5	.3%	0	6
UCR	42	3.5	2.3%	0	42
Trends	6	n/a	n/a	0	6

Improvement Target

	Target	Schedule
DSV	0	3 months
TDV	0	1 month
UCR	0	6 months
Trends	0	6 months



Future State Concepts

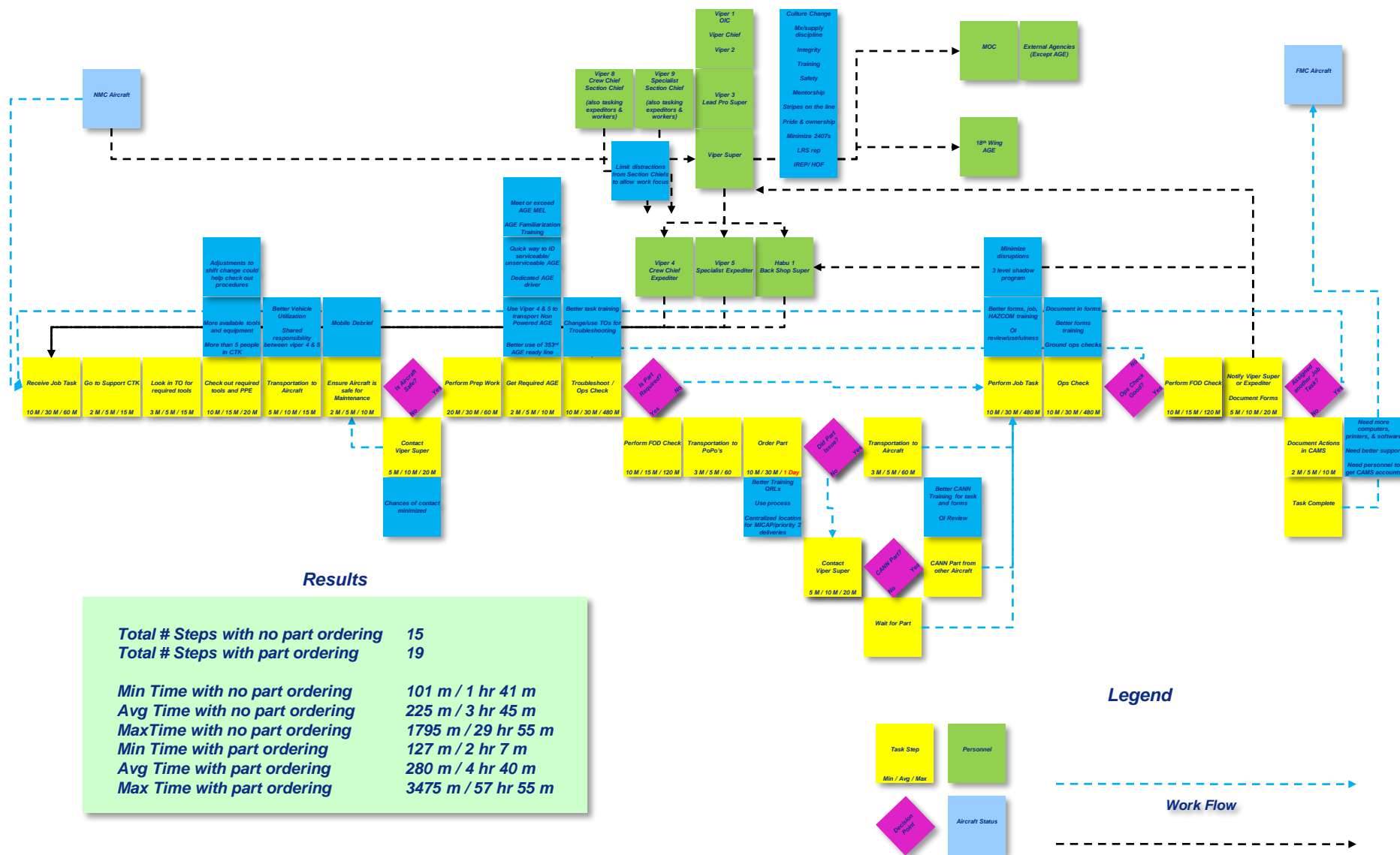
(Cross-referenced to Countermeasures and Action Plan Tasks)

- **Equipment Availability (tools, equipment, computers) (2a, 6c)**
- **Disruptions (interrupting personnel in work) (1a, 6b)**
- **Supervision (involved, stripes on the line) (2c, 3b)**
- **2407s (schedule changes, re-configs) (1a)**
- **Shift Turnover (6b)**
- **Extended Duty Hours (morale) (6b)**
- **Integrity (individual) (5a, 3c)**
- **Training Days (schedule, plan) (4a)**
- **Quality of Life (6a, 6b, 6c)**
- **Clear Lines of Communication (2c)**
- **Training (one on one, supervisor to individual) (2c)**
- **Transportation (more vehicles, better utilization) (2a, 6c)**
- **FSE Rate (1a)**
- **Maintainers Have a Voice (channel, forum) (3a)**
- **Shift Scheduling (personnel workload scheduling, meals, etc.) (6b)**
- **Decrease Time to Check Out Tools (2a, 7b, 6c)**
- **Space Utilization (7a, 7b)**
- **Get Rid of Excess Inventory (2c)**
- **Clear Lines of Authority (2c, 3b)**
- **Consistent Process (the basic maintenance task process) (2c, 3c)**
- **Parts Ordering Process (i.e. QRL use) (2c)**
- **Increase Awareness of 6S (Housekeeping) (2c, 3c, 5a)**
- **Maintenance OI In-brief/Training for Newcomers (3d, 4a)**
- **Change the Culture (safety, QA as an aid not a hammer) (3a, 3b, 3c, 3d, 3e)**
- **Effective use of Decertification and Retraining (4b)**
- **Forms Reviews (2c, 5a)**
- **Who, Where, and When Incidents Occur (need detailed data) (2c, 4a)**
- **Trends (study, decrease) (2c, 3d, 5a, 4b)**



Future State Value Stream Map

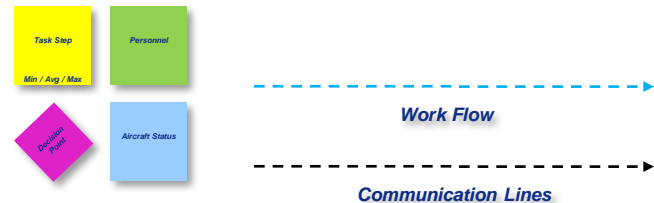
353rd SOG Typical Maintenance Action



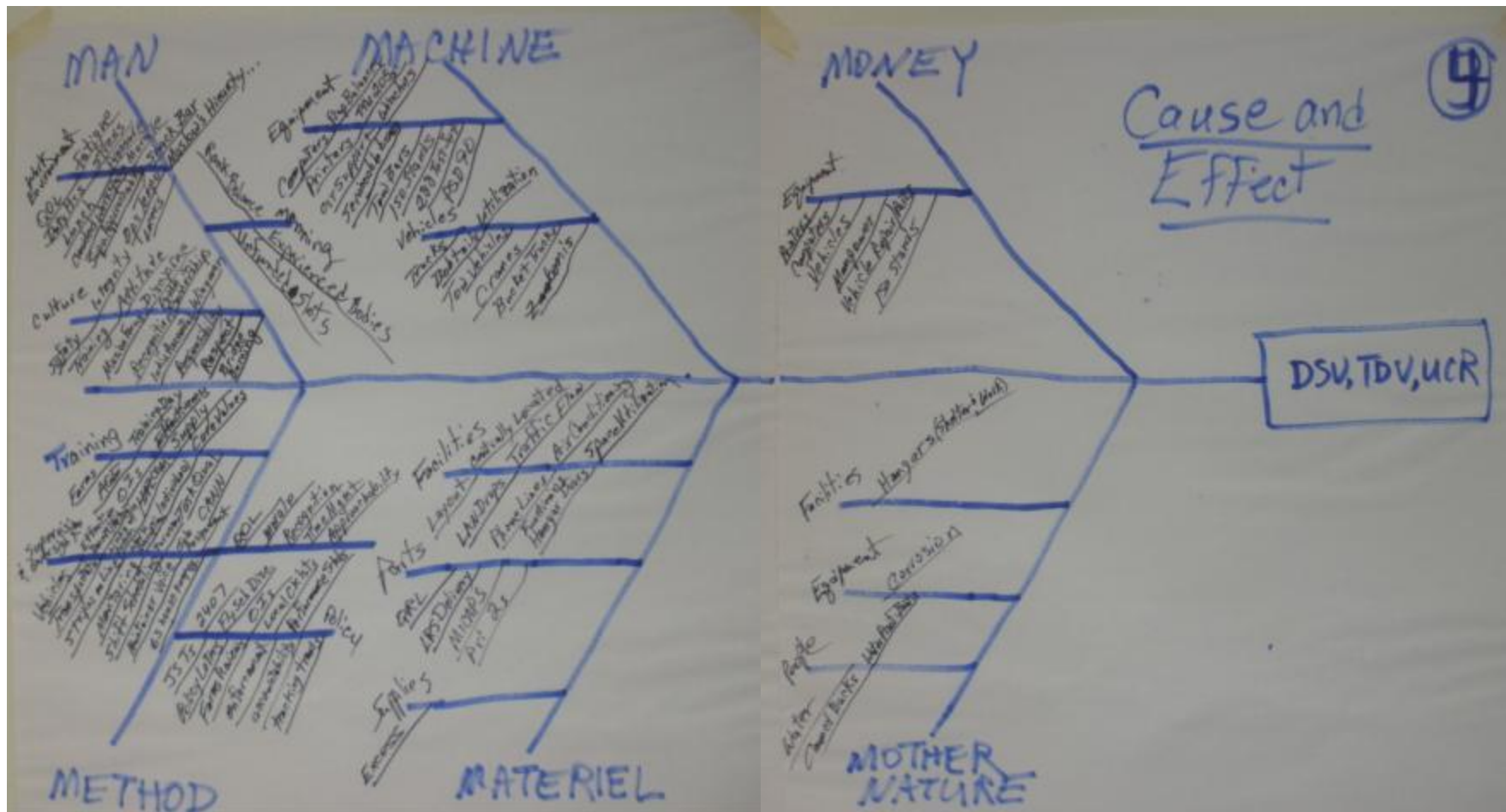
Results

Total # Steps with no part ordering	15
Total # Steps with part ordering	19
Min Time with no part ordering	101 m / 1 hr 41 m
Avg Time with no part ordering	225 m / 3 hr 45 m
Max Time with no part ordering	1795 m / 29 hr 55 m
Min Time with part ordering	127 m / 2 hr 7 m
Avg Time with part ordering	280 m / 4 hr 40 m
Max Time with part ordering	3475 m / 57 hr 55 m

Legend

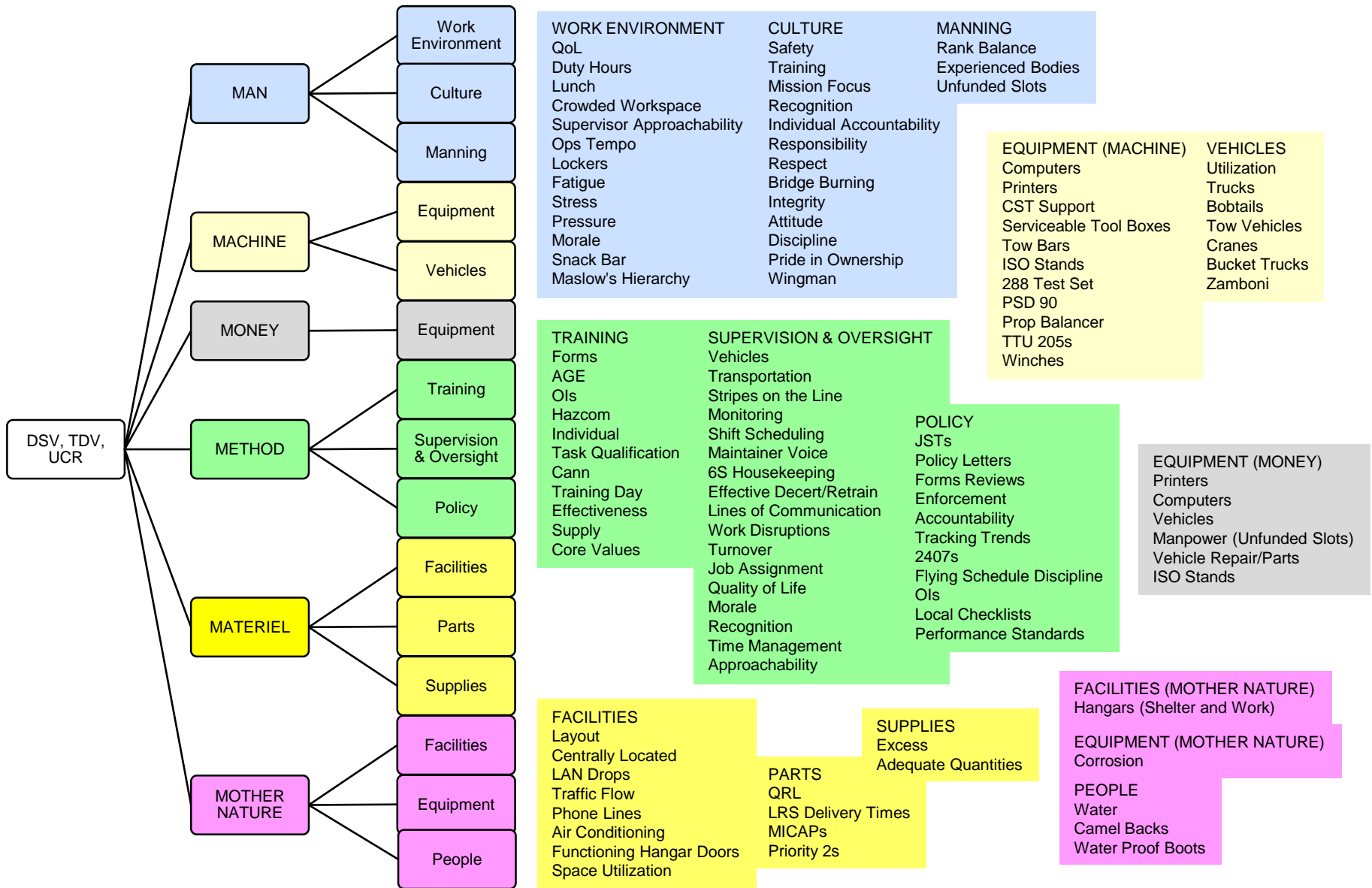


Cause and Effect (Fishbone)





Cause and Effect





Root Cause Analysis Brainstorm/Affinity

SUPERVISION	PERSONAL ACCOUNTABILITY	LAYOUT/FACILITIES	CULTURE	TRAINING	OPS TEMPO
Various levels of supervision involvement 2	Members not being responsible 1	Expeditors are overwhelmed do to the physical separation between facilities vs. The tasks they need to get accomplished 3	Culture 3	We have failed to train our replacements 5	OPS Tempo - 2407's too frequent wasted effort 3
We do not empower our troops to do what is asked of them. Micromanage vs. Efficient Time Management 1	Accountability 3		General/overall Squadron attitude 3	Training 3	Members being rushed to get the job done 2
Supervision and Oversight 1	Airmen are whiny. Instead of digging in the books and helping themselves, they sit and wait and complain 4		Maintainers need a voice - structure/responsive problem resolving function 4	Amount of trained vs. amount of untrained people 4	Fatigue/Extended duty hours 2
Pilot training is more important than MX training 3	Accountability variations for same type of DSV, TDV, UCR 1			Training days need to happen and members should be using the DSV, TDV, and UCR as an example to train all especially with trends 3	Too much variance in the flying schedule and not enough downtime for a/c MX and maintainers 1
Supervision from top down need to hold member accountable every time, same discipline across the board. 2	Maintainers have a tendency to be complacent once they get in their comfort zone. 2				All the work is being done by too few people. They are burned out and they are using basic survival skills to get by 2
Equipment 4					Day by day MX operations are too erratic due to schedule changes (ops) coupled with experienced manning 1
Not enough people in senior leadership are experienced at running an AMXS/Flight line 4					
Our high turn over rate negatively impacts our efficiency. PCS, Job Changes CTK, QA, Pro Sup 4					
Our mid tier managers are not strong enough to lead and work. Their lack of technical skill and poor leadership skills prevent them from moving forward. They are not holding people accountable. 3					
Decertification needs to happen every time with requal training plan in place or more extensive discipline needs to go forward 4					
Our senior leaders are not engaged enough to set the right standard and environment. Ignorance is bliss, and they are slow to react 2					
We have failed to give our troops what they need to do their job. Ex. Equipment, Vehicles, and training 2					
Better coverage by Viper 4 - Management Issue 2					

Note: Numbers indicate the team member's priority of the potential root cause listed.



Root Causes

Prioritized Categories – Nominal Group Technique (NGT)

- 1. Ops Tempo**
- 2. Supervision**
- 3. Culture**
- 4. Training**
- 5. Personal Accountability**
- 6. Quality of Life**
- 7. Layout Facilities**



Countermeasures Brainstorm/Affinity

OPS TEMPO	Have a MXG Commander on O-6	Build a SOG CONOPS and stick with it	Stick with a set schedule for training days	Schedule aircraft a down for MX days	Have a MX down day once a month	Relocate the SOG to a less convoluted environment (Korea, Yokota)	Revamp the Mission Support Request process used by the group! We've got our hands in too many pots.	Rotate in more qualified C130 personnel so there are more folks to do jobs, helping reduce extended duty hours- more free time	Have daily scheduling meetings to reduce 2407's	No Spares for local lines or Past Pro's	After duty hours - Friday night - Sunday Night - 48 hrs w/ro flying yet we are doing MX w/ a minimal crew	Assign people to aircraft. Pseudo Teams that encompass all AFSCs	Stick to the schedule	More give and take between OPS & MX	Say no sometimes to 20X more - not yes all the time	Greatly Reduce 2407's	
	1 OC	1 A	1 A	1 B	2 B	2 OS	1	1	2 A	3 A	1	OS	1 A	3 A	3	1 A	
SUPERVISION	Replace MXS Commander	Hold Supervisors Accountable	Enforce MXS Discipline	Make everyone from the top down do inspections every week and route them to the MX Chief	Put the right people in the right jobs not just because of rank	Be more proactive than current state of being reactive	Balance the responsibilities of the Viper 4 and Viper 5 to increase work force efficiency	Have more flight line (AMXS) experienced personnel in supervision (Chiefs especially)	Hold people accountable	Establish clear standards & policies	Procure the tools, equipment, vehicles needed to perform assigned duties	Be Engaged	Acquire/buy all needed Equipment, supplies, Bldgs	Enforce Standards	Stop trying to be everyone's friend	Bring in a Senior O-5 for Sq. CC. (Don't PCS in a Maj or Lt Col select)	
	1 OS	2 C	2 C	2	3	1 NA	1	1 NA	3 C	2 C	1 A	4 N/A	3 A	2 C	1 C	1 OS	
CULTURE	Lean out the leadership in Sq. Think Centralized Comd, decentralized execution	Supervisors need to be involved more	Head honcho needs to ensure all supervisors at all levels are consistent with discipline	Supervisors need to ensure action plans are implemented after hearing feedback in trends in what is needed to get the job done.	H-Flight needs new OIC/Chief												
	2	2	3 C	1	1 DS												
TRAINING	Establish a structured and responsive problem solving function comparable to the base I.C.E. program.	Enforce Enlisted Force Structure	Instill Safety First Mindset	Have QA brief Roll Call 2 to 3 times a week with current negative findings and trends	Junior NCO's need to step up to the plate and be responsible	Institute MX focus days or quality focus days. We would deep dive into issues and develop solutions and track them	Award good performance	Car about people	Structured	Safety and Training should be as high a priority as flying a.	Hold monthly shop meeting to increase awareness on policies/procedures/events	Advertise and celebrate excellence. Admonish poor performance. In public forums.					
	1 A	2 B	1 C	1 D	1 B	1 D	3 E	2 A	1 B	1 C	2 D	2 E					
PERSONAL ACCOUNTABILITY	Have effective training days with no flying	More decertification and retraining need to occur	Train the right way the first time	Supervision enforce and make personal training plans	The training office needs to be better utilized. i.e. more structured and formal training classes geared toward MX Task and local procedures	Have 2 week CL10 FAM course for those in qualification training	Schedule production classes for training on training days	Not enough qualified individuals. If every MX unit is feeling the problem why can't we fix this so AFRC run by a 5 star?	Fight to keep training days. Push missions away from day after training days if we don't have to prep a/c	When we have training days they need to be better organized and tasks need to be prioritize and tracked	Hold people accountable for not complying w/training	Decertification of task/basis need to be implemented with an action plan/follow-up for recertification	Decertification of task/basis of personnel need to be tracked/shown during Status of Training with CC.	Alternate training days need to be forecasted in the event the primary training day was taken away due to mission			
	1 A	2 B	2	1	1	2	1 A	1 OC	1 A	2 A	3 B	1 B	2 B	1 A			
QUALITY OF LIFE	Have a squadron standard	Have offenders brief why he/she did not follow the rules. The brief would be done at the monthly CC call. Offender would answer questions from production	Be involved	Set a good example	Take responsibility good or bad	Truly hold people responsible Decert/Recert	Treat work performance like the PT policy is being enforced	Less reacting more preventing	More severe discipline needs to be enforced for members on DDV and TD's every time all the time								
	1 A	1 A	3 NA	2 NA	1 NA	1 NA	1 NA	2 NA	1 A								
LAYOUT/FACILITIES	Find ways of improving morale by engaging with lower level	Tools/equipment availability/serviceability extended duty hours	Get folks what they need both on and off duty	Plan manage shift: personnel to maximize utilization	Care about your people	Better tools and equipment	Make DCC program a priority not just a EPR title	Have shifts that overlap for better turn over	MXS/CC needs to stand firm on weekends and down days for maintainers	Day shift needs to start earlier in the day	Redo the specialist and crew chief offices new desks, computers, chairs) Make sure it is kept clean.	Build a lounge. Big screen TV, lounge chairs, DVD	Provide more serviceable/equipment	Develop more in-house recognition programs	Have full snack bar for H Flight with a hot dog machine etc. Since a lot of them do not get lunch		
	1 A	1 C	3 A	2 b	1 A	3 A	3 A	1 B	1 B	2 B	1 OS	2 OS	1 C	2 A	OS		
LAYOUT/FACILITIES	We need to move all of H-Flight to Bldg 3671 and then relocate all soft to the Navy ramp	Kick the Navy to our end of Lima row. We are here for 2-7 years they rotate every 6 months	Stop shuffling shops around. Make a plan and stay with it.	Move the whole MX Complex to down to the A/C parking area.	Move the SOG from Okkawa to some other location in the Pacific.	Make parking ramp taxi on taxi of spots, tear down revetment walls	Get power/air units in the ground	CTK and Maintainers roll call (start of the duty day) located at the palace	Get plans/funds approved faster	We need to invest more money in the appearance of our facilities paint walls re tile floors/carpet and improve everything	Build a new MX hanger, 3 bay with offices for the entire squadron	Improve facility conditions	Build 3 hangers with hanger doors that close. One of the hangers would be for fuel MX.				
	1 B	1 B	1 B	1 C	2 OC	2 C	3 C	1 B	2 A	2 A	1 A	1 A	2 A				

Countermeasures were developed for each category of Root Cause.

Legend:
 Duplicates = A, B, C, D...
 Out of Your Control = OC
 Out of Event Scope = OS
 Not Actionable/Intangible = NA



Countermeasures

1. Ops Tempo

- A. Scheduling CONOPS
- B. Monthly Maintenance Down Day (UTE Day)

2. Supervision

- A. Tools and Equipment
- B. Enforce Standards

3. Culture

- A. ICE (Comment, Feedback)
- B. Enforce Enlisted Force Structure
- C. Safety Mindset
- D. Maintenance Focus Days
- E. Awards and Recognition

4. Training

- A. Training Day
- B. Decertification Process

5. Personal Accountability

- A. Hold People Accountable

6. Quality of Life

- A. Morale Programs
- B. Shift Scheduling
- C. Tools and Equipment

7. Layout Facilities

- A. Repair, Upgrade, New Construction
- B. Centralize
- C. Flightline and Airfield Upgrades



Selection of Key Tasks

(Nominal Group Technique)

(Each team member was asked to provide their top three key tasks in priority order relevant to addressing the root causes.)

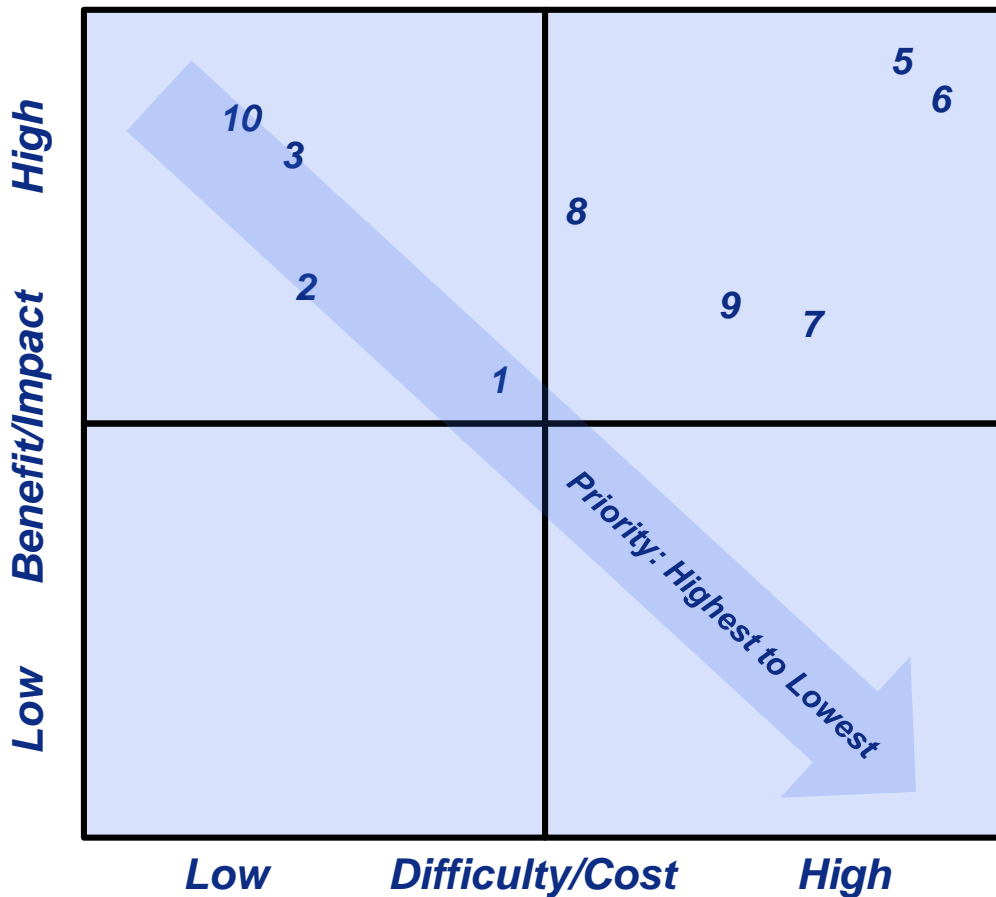
- Group 1. Pri 2 - Decertification process with action plan and follow up
- Group 2. Pri 2 - Viper 4 and 5 shared responsibilities
- Group 2. Pri 3 - Shared responsibility of Viper 4 and 5 to increase work force efficiency
- Group 2. Pri 1 - Forms review
- Group 3. Pri 1 - Stripes on the line
- Group 3. Pri 1 - Stripes on the line
- Group 3. Pri 2 - Stripes on the line/get involved
- Group 4. (Group 4 was combined with another group.)
- Group 5. Pri 1 - Procure tools and vehicles
- Group 5. Pri 3 - Equipment availability
- Group 5. Pri 2 - Procure more tools, equipment, computers, vehicles
- Group 5. Pri 1 - Provide tools, equipment, computers, printers
- Group 6. Pri 1 - Fix scheduling CONOPS
- Group 6. Pri 2 - Build scheduling CONOPS
- Group 6. Pri 1 - Fix scheduling in MXS
- Group 6. Pri 2 - Reduce 2407s
- Group 7. Pri 2 - When we have training days they need to be better organized
- Group 7. Pri 3 - Make training days happen and block training
- Group 7. Pri 3 - Institute mx focus days (training days)
- Group 7. Pri 1 - Institute mx focus days (training days)

Key Tasks associated with Countermeasures were selected.

*Legend:
 Duplicates = A, B, C, D...
 Out of Your Control = OC
 Out of Event Scope = OS
 Not Actionable/Intangible = NA*



Key Tasks - Pick Chart



A Pick Chart was used to prioritize the Key Tasks.

Resulting Prioritization

Key Tasks:

1. Track and Brief Trends
2. Stripes on the Line
3. Viper 4 and 5 Shared Responsibilities
4. Meet or Exceed AGE MEL
5. Decertification Process With Follow-up Action Plan
6. Tool and Equipment Availability
7. Plan and Manage Shift Personnel for Maximum Utilization
8. Scheduling CONOPS
9. Properly Utilize Training Days

See Key Task Selection on previous page.



Action Plan – Key Tasks

(Prioritized Key Tasks and Process Standardization Method)

1. Track and Brief Trends

- Bring back the Mongoose Monthly
- Daily info to Section Chief level
- Publish HOF data to everyone
- Standardization: SOG Directive

2. Stripes on the Line

- Schedule of Top-4 Personnel
- Fill out 803s and give to MXM
- Brief at Daily Production Meeting
- Standardization: MXS Directive

3. Viper 4 and 5 Shared Responsibilities

- Enforce already defined responsibilities
- Standardization: Track on 797

4. Meet or Exceed AGE MEL

- Enforce Lima 2 usage
- Define AGE Contact Info
- Daily MEL
- Standardization: Status of AGE (NMC) Daily and Weekly
- Standardization: Checklist for Supers

5. Decertification Process With Follow-up Action Plan

- Rewrite MXS training OI to address decerts and tracking
- Standardization: MXS OI, and follow 36-2201

6. Tool and Equipment Availability

- Define requirements for tools, vehicles, critical equipment, computers, printers, and computer support
- Work to fill needs
- Standardization: If no MEL, then create a local minimum level

7. Plan and Manage Shift Personnel for Maximum Utilization

- Standardize schedule format for the Squadron
- Expand existing database
- Standardization: MXS Directive

8. Scheduling CONOPS

- Define and Schedule an AFSO 21 Event
- Standardization: Determined by Event Team

9. Properly Utilize Training Days

- Standardize Training Day
- Define Alternate Training Day
- Ensure training is value added
- Tailor training to NM drivers
- Standardization: Make the changes to the Training OI

Key Tasks were further defined and a Standardization method was identified.

Action Plan

Line #	TASK #	SUB-TASK	TASK ELEMENT	Priority	Task Type	Metric	Task Description	Expected Outcomes / Results / Objectives / Metrics	Standardization	POC	Start Date	ECD	Status	Comments
1	1			1	PROJ	x	Track and Brief Trends	Bring back the Mongoose Monthly Daily info to Section Chief level Publish HOF data to everyone	SOG Directive	MXM Pepper				
2	2			2	PROJ	x	Stripes on the Line	Schedule of Top-4 Personnel Fill out 803s and give to MXM Brief at Daily Production Meeting	MXS Directive	MXM Pepper				
3	3			3	PROJ	x	Viper 4 and 5 Shared Responsibilities	Enforce already defined responsibilities	Track on 797	MXM Pepper				
4	4			4	PROJ	x	Meet or Exceed AGE MEL	Enforce Lima 2 usage Define AGE Contact Info Daily MEL	Status of AGE (NMC) Daily and Weekly Checklist for Supers	MXMH LeBlanc				
5	5			5	PROJ	x	Decertification Process With Follow-up Action Plan	Rewrite MXS training OI to address decerts and tracking	MXS OI, and follow 36-2201	MXMH Robertson				
6	6			6	PROJ	x	Tool and Equipment Availability	Define requirements for tools, vehicles, critical equipment, computers, printers, and computer support Work to fill needs	If no MEL, then create a local minimum level	MXMH LeBlanc				
7	7			7	PROJ	x	Plan and Manage Shift Personnel for Maximum Utilization	Standardize schedule format for the Squadron Expand existing database	MXS Directive	MXMM Wysinger				
8	8			8	RIE	x	Scheduling CONOPS	Define and Schedule an AFSSO 21 Event	Determined by Event Team	MXMO Brown				
9	9			9	PROJ	x	Properly Utilize Training Days	Standardize Training Day Define Alternate Training Day Ensure training is value added Tailor training to NM drivers	Make the changes to the Training OI	MXOT Blair				



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

1. Ops Tempo, MXMO Brown

A. Scheduling CONOPS

- R - Minimize disruptions to maintenance tasks, re-configs
- R - Minimize 2407 schedule changes, re-configs
- M R - Improve the FSE rate
- RIE + Build a SOG scheduling CONOPS
- R - Build the schedule, stick to the schedule (scheduling discipline)
- PROJ + Daily scheduling meeting
- RIE + No spares for local lines, and Pilot Pros
- RIE + Mx and Ops work closely on schedule
- RIE + Monthly Mx Down Day (UTE Day, Mx Focus Day)
- PROJ + Mobile debrief

Legend:

+ = Task

R = Expected Outcome or Result

M = Metric or Measurement (for tracking performance and improvement)

JDI = Just Do It

PROJ = Team (not and AFSO 21 event)

RIE = AFSO 21 event



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

2. Supervision, MXM Pepper

A. Tools and Equipment, MXMH LeBlanc

- PROJ + Procure tools, equipment, and vehicles needed to perform assigned duties (ID requirement, ID shortfalls, work the delta)
- PROJ + Acquire/buy all needed supplies (ID requirements, work to fill)
- PROJ + Equipment availability (tools, equipment, computers, printers) (ID computer and printer requirements, work to fill) (Secure adequate computer support)
- PROJ + Decrease time to check out tools
- PROJ M - Establish a baseline and track tool check-out time
- PROJ + Serviceable tow bar availability
- PROJ + Vehicle utilization plan (to include bobtails)
- JDI M - Meet or exceed AGE MEL (Need consistent reporting of AGE status)
- R - Give people the tools they need to do the job
- PROJ M - Meet or exceed UTC equipment requirements
- JDI + Establish a critical equipment list with locally established MEL
- JDI M + Meet or exceed critical equipment local MEL



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

2. Supervision, MXM Pepper

B. Enforce Standards, MXM Pepper

- R - Hold supervisors accountable
- R - Enforce maintenance discipline
- R - Hold individuals accountable
- R - Establish clear policies and standards
- R - Enforce standards
- R - Stop trying to be everyone's friend
- JDI + Supervision, stripes on the line, involved supervision and leadership
- JDI + Shared responsibility between Viper 4 and Viper 5
- R - Clear lines of communication
- PROJ + Training one on one, supervisor to individual
- JDI + Get rid of excess inventory
- R - Clear lines of authority
- R - Consistent process (basic maintenance tasks)
- JDI M + Parts ordering process (update and ensure use of the QRL)
- PROJ M + Increase awareness of 6S housekeeping (clean up the place)
- JDI + Forms reviews
- JDI + Who, where, and when incidences occur (QA provide data to supervisors so they can take corrective action)
- PROJ M + Trends (study, decrease)
- JDI + Use Lima 2 AGE ready line
- JDI M + Task training, change, use TOs for troubleshooting
- R - Disruptions (reduce)
- PROJ M + Forms, Hazcom, Job Training, Block training
- JDI + OI reviews
- JDI M + Supply discipline
- R - Mentorship
- R - Integrity
- JDI M + Upgrade training status



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

3. Culture, MXMH Welling

A. ICE

- **PROJ M + Establish a structured and responsive problem solving feedback and comment process similar to the ICE program**
- **R - Take care of people (maintainers have a voice)**

B. Enforce the Enlisted Force Structure

- **R - Jr NCOs need to step up and be responsible**
- **JDI + Stripes on the line**
- **R - Clear lines of authority**

C. Safety Mindset

- **R - Instill safety first mindset**
- **R - Safety training should be as high a priority as flying**
- **R - Individual Integrity**
- **JDI + Who, where, and when incidences occur (QA provide data to supervisors so they can take corrective action)**
- **R - Consistent process (basic maintenance tasks)**
- **PROJ M + Increase awareness of 6S housekeeping (clean up the place)**



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

3. Culture, MXMH Welling

D. Maintenance Focus Days (Maintenance Training Days)

- JDI + Have QA brief roll calls with current negative findings and interest items
- PROJ + Institute maintenance focus/training days
- JDI + Hold monthly shop meeting to increase awareness of policies and procedures
- JDI + AGE Fam Class
- JDI M + Task training, change, use TOs for troubleshooting
- JDI + Implement and use QRL training process
- M + Forms training, job training, hazcom training
- M + OI reviews
- M + Trends
- PROJ M + Mission briefs for newcomers

E. Awards and Recognition

- PROJ M + Reward good performance (needs further development, survey existing awards programs, ensure they are being used, and are effective)
- R - Advertise and celebrate excellence, admonish poor performance in public forums



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

4. Training, MXOT Blair

A. Training Day

- R - Have effective training days with no flying
- JDI M + Schedule production section for training events or training days
- R - Fight to keep training days, push missions away from day to after training day (no a/c prep)
- JDI M + When we have training days they need to be better organized and tasks need to be prioritized and tracked
- JDI + When trends occur, training day should be used for that (eg. For all to prevent reoccurrences)
- JDI M + Forms training
- JDI M + Mission brief for newcomers
- JDI M + Who, when, where incidences occur
- M - Trends
- M - Job training
- M - Hazcom training
- M - Supply training
- M - Task training
- M - AGE Fam training



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

4. Training, MXOT Blair

B. Decertification and Retraining Process

- **R - Hold people accountable for not complying with training**
- **M R - More decertification and retraining needs to occur**
- **PROJ M + Decertification of tasks need to be implemented with an action plan and follow-up**
- **PROJ M + Decertification of tasks of personnel need to be tracked, and shown during SOT with the Commander**
- **M + Trends (study, decrease)**



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

5. Personal Accountability, MXMH Robertson

A. Hold People Accountable

- R - Have a squadron standard
- PROJ M + Truly hold people responsible (decert/retrain)
- R - More severe discipline needs to be enforced for members on DSV, TDV, and UCRs every time
- R - Have offenders brief why he/she did not follow rules a Commanders call, then answer questions from Squadron
- JDI + Shared responsibility between Viper 4 and Viper 5
- JDI M + CAMS accounts
- JDI M + Forms reviews
- R - Integrity
- PROJ M + Increase awareness of 6S housekeeping (clean up the place)



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

6. Quality of Life, MXMM Wysinger

A. Morale Programs

- R - Engaging with the lowest levels
- R - Care about your people
- PROJ M + DCC program
- PROJ M + Develop more in-house recognition programs

B. Shift Scheduling

- PROJ M + Plan and manage shift personnel to maximize utilization
- PROJ + Shifts that overlap for better turnover
- R - MXS/CC stand firm on weekends and down days for maintainers
- PROJ M + Dayshift needs to start earlier
- PROJ M + CTK shift change for maximum participation during flightline turnover
- R - Reduce disruptions
- R - Extended duty hours (reduce)
- R - Quality of life
- M - Shift scheduling personnel (being able to stop for meals)



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

6. Quality of Life, MXMM Wysinger

C. Tools and Equipment

- PROJ M + Better/more available serviceable equipment and tools
- R - Quality of life
- PROJ + More vehicles (and/or better utilization)
- PROJ + Decrease time to check out tools
- JDI M + AGE meet or exceed MEL
- PROJ + Printers, computers, software, and CST support



Action Plan

(Tasks, Expected Outcomes and Results, Metrics, and Suggested Team Leaders)

7. Layout and Facilities MXM Vieitez

A. Repair, Upgrade, and New Construction

- M + Need to invest more money in appearance of facilities
- M + Space utilization
- R - Build 3 hangars, one hangar for fuel maintenance
- R - Build new maintenance hangar, 3-bay with offices for the entire Squadron

B. Centralize

- PROJ + Stop shuffling shops around, make a plan, stick to it
- PROJ + Move all H-Flight to 3671 and relocate all aircraft to the Navy ramp
- PROJ M R + More than 5 people at a time allowed in CTK to check out tools and equipment
- PROJ + Centralize location for supply, CTK, maintainers roll call
- R - Minimize disruptions

C. Flightline and Airfield Upgrades

- PROJ + Make parking ramp taxi-on taxi-off spots, tear down revetment walls
- PROJ + Get power, and air units in the ground
- PROJ + Move the whole maintenance complex to the aircraft parking area



Performance Dashboard

Key Performance Indicators (KPIs)

Top Level Metrics (related to this improvement effort)

- DSV
- TDV
- UCR
- Trends

Improvement Target

	Target	Schedule
DSV	0	3 months
TDV	0	1 month
UCR	0	6 months
Trends	0	6 months

Second Level Metrics

- Stripes on the Line
- Viper 4 and 5 Responsibility Compliance
- Mongoose Monthly
- 803s Use and Discipline
- Monthly HOF Data Published Squadron Wide
- Lima 2 Usage
- Meet or exceed AGE MEL
- Meet or exceed MEL of Locally Developed Critical Equipment Listings
- Supervisor Response and Actions to DSV, TDV, and UCRs
- Effective Use of Decert and Retrain and Compliance with AFI 36-2201
- Are Training Day Topics Included Training and Education on Current Trend Items, and NMCM Drivers



Key Performance Indicators (KPIs) Metrics / Measurements Dashboard

Basic MPIs, Top Level Metrics, Second Level Metrics

Basic Maintenance Performance Indicators (MPIs) for Health of Fleet (HOF)

- MC, Aircraft Availability, TNMCM, TNMCS, Cann, Abort, Break, Fix, MSE, Commit Rate)

Top Level Metrics (related to this improvement effort)

- DSV, TDV, UCR, Trends

Second Level Metrics

- Stripes on the Line
- Viper 4 and 5 Responsibility Compliance
- Mongoose Monthly
- 803s Use and Discipline
- Monthly HOF Data Published Squadron Wide
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- Meet or exceed AGE MEL
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Key Performance Indicators (KPIs) Metrics / Measurements Dashboard

Detailed Measures of Performance and Audit

1. Ops Tempo, MXMO Brown

A. Scheduling CONOPS

- FSE rate

2. Supervision, MXM Pepper

A. Tools and Equipment, MXMH LeBlanc

- baseline and track tool check-out time
- Meet or exceed AGE MEL
- Meet or exceed UTC equipment requirements
- Meet or exceed critical equipment local MEL

B. Enforce Standards, MXM Pepper

- Update and ensure use of the QRL
- 6S housekeeping performance
- Trends (DSV, TDV, UCR, as well as FOD, DOP, Lost Tools, and Incidents)
- Status of Task training
- Status of Forms, Hazcom, Job Training, Block training
- Supply discipline (order quantities, stock levels, supplies, consumables, bench stock)
- Upgrade training status

3. Culture, MXMH Welling

A. ICE

- ICE/feedback/comment system in place and working

B. Enforce the Enlisted Force Structure

- (metric not identified)

C. Safety Mindset

- 6S housekeeping performance

D. Maintenance Focus Days (Maintenance Training Days)

- Status of Task training
- Status of Forms, Hazcom, Job Training, Block training
- OI review status
- Trends (DSV, TDV, UCR, as well as FOD, DOP, Lost Tools, and Incidents)
- Mission briefs for newcomers (are all newcomers being briefed)

E. Awards and Recognition

- Reward good performance (needs further development, survey existing awards programs, ensure they are being used, and are effective)



Key Performance Indicators (KPIs) Metrics / Measurements Dashboard

Detailed Measures of Performance and Audit

4. Training, MXOT Blair

A. Training Day

- Schedule production section for training events or training days (is a schedule being produced and followed)
- Organized training days, with tasks prioritized and tracked
- Forms training status
- Mission briefs for newcomers (are all newcomers being briefed)
- Track and disseminate to workcenter supervisors who, when, where incidences occur
- Trends (DSV, TDV, UCR, as well as FOD, DOP, Lost Tools, and Incidents)
- Status of Job training
- Status of Hazcom training
- Status of Supply training
- Status of Task training
- Status of AGE Fam training

B. Decertification and Retraining Process

- Is decertification and retraining being used as appropriate
- Do decertification of tasks include adequate retraining and an action plan with follow-up
- Are decertification of tasks tracked, and shown during SOT with the Commander
- Trends (DSV, TDV, UCR, as well as FOD, DOP, Lost Tools, and Incidents)

5. Personal Accountability, MXMH Robertson

A. Hold People Accountable

- Is decertification and retraining being used as appropriate
- Does each user have the required CAMS account
- Is user name and password security being adhered to
- Are forms reviews being accomplished
- 6S housekeeping performance



Key Performance Indicators (KPIs) Metrics / Measurements Dashboard

Detailed Measures of Performance and Audit

6. Quality of Life, MXMM Wysinger

A. Morale Programs

- Is there a DCC program
- Assess the effectiveness of the DCC program
- Are in-house recognition programs adequate, in place, and effective

B. Shift Scheduling

- Are workcenter supervisors planning and managing shift personnel to maximize utilization, and to account for variances in the flying schedule and workload
- Are shift start and stop times, and shift overlaps optimal
- Is there maximum participation during CTK shift change during flightline turnover
- Are workcenter supervisors scheduling personnel such that time for meals is available

C. Tools and Equipment

- Are there adequate quantity and quality of serviceable equipment and tools
- AGE meet or exceed MEL

7. Layout and Facilities MXM Vieitez

A. Repair, Upgrade, and New Construction

- Is there an adequate level of investment and priority given to the appearance of facilities
- Is there a space utilization plan, and are facilities utilized in the most efficient manner possible

B. Centralize

- Is there an efficient CTK tools and equipment checkout process, and is the process capable of efficiently handling shift changeover surges

C. Flightline and Airfield Upgrades

- (metric not identified)



Standard Work

(Critical Sustainment Tasks)

1. Track and Brief Trends

- **SOG Directive**

2. Stripes on the Line

- **MXS Directive**

3. Viper 4 and 5 Shared Responsibilities

- **Track on 797**

4. Meet or Exceed AGE MEL

- **Status of AGE (NMC) Daily and Weekly**
- **Checklist for Supers**

5. Decertification Process With Follow-up Action Plan

- **MXS Training OI**
- **Follow 36-2201**

6. Tool and Equipment Availability

- **Create a local minimum level**

7. Plan and Manage Shift Personnel for Maximum Utilization

- **MXS Directive**

8. Fix Scheduling CONOPS

- **(Define and Schedule an AFSSO 21 Event)**

9. Properly Utilize Training Days

- **Make the changes to the Training OI**



Results

RESULTS	Current State	Future State	Delta	Improvement
# Steps Without Parts Order	15	15	0	0.0%
# Steps With Parts Order	19	19	0	0.0%
Min Time Without Parts Order	180 m / 3.00 h	101 m / 1.68 h	79 m / 1.32 h	43.9%
<u>Avg Time Without Parts Order</u>	<u>350 m / 5.83 h</u>	<u>225 m / 3.75 h</u>	<u>125 m / 2.08 h</u>	35.7%
Max Time Without Parts Order	2030 m / 33.83 h	1795 m / 29.92 h	235 m / 3.92 h	11.6%
Min Time With Parts Order	206 m / 3.43 h	127 m / 2.12 h	79 m / 1.32 h	38.3%
<u>Avg Time With Parts Order</u>	<u>405 m / 6.75 h</u>	<u>280 m / 4.67 h</u>	<u>125 m / 2.08 h</u>	30.9%
Max Time With Parts Order	5140 m / 85.67 h	3475 m / 57.92 h	1665 m / 27.75 h	32.4%



To Do / Way Ahead

- **Assign Team Leaders to Action Plan Key Tasks**
- **Assign POCs to Action Plan Sub-tasks**
 - **List POCs by name, one person only, do not appoint “shared” responsibility, make one person overall accountable**
- **Establish estimated completion dates**
- **Schedule 30, 60, and 90-day follow-ups**
- **Track progress**
 - **Focus on Action Plan Key Tasks, and Critical Sustainment Tasks of Standardization Methods**
- **Track Key Performance Indicators to Ensure Expected Outcomes and Results are Realized (See Performance Dashboard)**
- **If not on track, find out why, and make adjustments**

