18 Maintenance Group, Kadena AB, Japan

18 MXG – F-15 Phase 8-Step
4-7 May 10
Outbrief and Event Material

Lt Col Matthew D. Cox
18 MXG/CDM
DSN: 734-1805

7 May 10

This Briefing is:
UNCLASSIFIED

Charter - Event Description

- **Improve the 18 MXG F-15 Phase process to increase aircraft availability.**
  - **Event will begin with just-in-time team member training in AFSO21 and lean fundamentals relevant to the process.**
  - **The team will then proceed through the AFSO21 8-Step Problem Solving process to include a process/waste walk to observe first hand and begin the application of lean concepts.**

Team Members

A1C Aaron M. Booth, 18 EMS/MXMTIF, 634-7904

SrA Jeremy D. Laker, 18 EMS/MXMTIF, 634-7836

SSgt Kayla E. Leabo, 18 EMS/MXMTRS, 634-7904

SSgt Jon A. Block, 18 EMS/MXMTIF, 634-7904

Charter - Problem Statement

- **Purpose and Need:** Over the coming year, 18 Wing F-15 aircraft availability is projected to decrease due to transfer schedule and aircraft modifications. Additionally, manning and experience levels of critical specialties extends maintenance time and negatively impacts the ability of maintenance to support the aircrew training schedule.
- **Customer Problems/Concerns:** The F-15 phase is a stable 10-day process and has demonstrated consistent performance over the past year. However, additional flexibility is needed to ensure adequate aircraft availability, and to allow for the turnover of personnel and influx of less experienced technicians.

Charter - Impacts

- **Impact if not pursued: Will not meet Flying Hour Program**
- **Current condition has existed for: Approx 5 months**
- **Business benefit: Meeting Flying Hour Program without additional cost in people or time, and with no compromise in safety and quality.**

Charter - Boundaries

- **Start:** When an aircraft is scheduled for phase

  - to -

- **Stop:** Third sortie after phase

- **Detail:** Focus is on utilization of time and personnel, quality, and a sustainable and predictable phase process.

Charter - Scope

- This event is focused on the overall downtime required to perform an F-15 phase.
- Areas for consideration may include, but are not limited to the following:
  - Phase process flow
  - Time change optimization (to minimize downstream downtime impacts)
  - Personnel training and experience levels
  - Tools and equipment
  - Product quality
  - Quality assurance support concept
  - Specialist support
  - Supplies, consumables, bench stock
  - Supply parts and long-lead items
  - Pre-dock and post-dock
  - Delayed discrepancies
  - Backline

Charter - Project Constraints

- **Time constraints: 3 days**
- **Constraints:**
  - **Manning constraints**
  - **Time constraints**
  - **Organizational constraints**

Charter - Deliverables

- Prioritized implementation plan
- Immediate improvements to process
- Funding requirements for implementation
- Policy changes necessary to implement

Deliverables to 18 MXG/CC

- Compilation of Data and Information collected for the event
- Event In-brief PPT
- Event Out-brief PPT with recommended way ahead (countermeasures to ensure mission effectiveness)
- Action Plan with OPRs and Suspense Dates
- Training plan for ensuring the process is trained consistently to in-coming personnel
- After-action Event Followups (30, 60, 90 day)

Charter - Goals

Overarching goal and link to annual plan: Flying Hour Program Achievement

- **Short Term (Notional): Improve Aircraft Availability to support flying hour program given aircraft mods and transfer schedule**

- **Long Term (Notional): Sustained performance in minimizing impact to aircraft availability, and meet flying hour program given aircraft mods**

Return on Investment

- **Investments: Cost of event, cost of improvements identified in terms of time and personnel.**
- **Cost Savings: Freeing up Airman's time.**
- **Cost Avoidance: Rework reduced avoiding associated time and personnel.**
- **Benefit: Increased aircraft availability, effective use of personnel time, product quality.**

Charter - Measures of Success

- **The overall metric is Average Phase Time of 8.6 days with no more than 2 day variation**
  - **Support 20 phases per year**

- **Measures to ensure improvements are effective are specific milestone timings identified in the future state process. Measures of success will be determined during the action plan implementation.**

Data Collection

- # phases per year
- Times to complete phases (past year, min, max, avg)
- Past aircraft availability
- Forecasted aircraft availability (transfers in/out, Suite 6 modification, V-3 spin-up)
- Aircrew manning increase
- Aircrew training increase
- # people in phase (by skill level, per shift, experience on aircraft in months/years)
- *** Target average phase
- *** Target times for phase process milestones

Charter - Problem Statement Clarified

- "The way we've always done it."
- Training – many new people, trainees, little experience on the aircraft, little experience in phase, different MDS experience
- No downtime to fix problems or to train people (back-to-back phases)
- Getting support is a big issue (people and equipment)
- Tools – have to borrow tools and equipment, change kits, etc. from other squadrons and sections
- Communication – internally needs improvement
- Growing aircrew training requirement

F-15 Phase Background Info

- Intensive preventive maintenance inspection
- Required every 400 flight hours
- Average 10 days to complete
- 56 people, 6 AFSCs, 24/7 3-shift operation, 5 days a week, 5,376 total manhours per a/c, (91,392 manhours/year)
- 93 inspection work cards, 372 total inspection items
- Identifies an average 175 preventive maintenance actions
- May include engine changes, canopy change, structural repairs, time compliance technical orders, and mods
- Extensive forms and documentation review
- 17 phases per year (back-to-back through the year)
- Enables 6,800 flying hours for the 18th Wing

Aircraft Availability (AA) Impacts FY10

- **Suite 6 Mod – 1 week per a/c, 2 a/c per wk, 26 wks (6.5 mos)**
- **Aircraft Transfers – 4 a/c in from Langley, 4 a/c out to ANG**
  - **Transfer Prep (outgoing a/c) – 1 a/c, 4 wks (x4 = 4 a/c, 4 mos, or 1 a/c month for 4 months)**
  - **Transfer Insp (incoming a/c) – 1 a/c, 1 wk (x4 = 4 a/c, 4 wks, or 1 a/c week for 1 month)**
- **Aggregate AA Impact**
  - **Suite 6 Mod – 1 a/c reduction over the next year (AA=-1)**
  - **Transfers – .42 a/c reduction over the next year (AA=-.42)**
  - **Total – 1.42 AA reduction over the next year**

Aircraft Availability (AA) Impacts FY11

- V3 Mod – 6 wks per aircraft, 2 a/c at a time, 32 a/c (16 mo)
- AA Impact – 2 AA reduction over the FY

F-15 Phase Comparison

KADENA F-15 PHASE COMPARISON

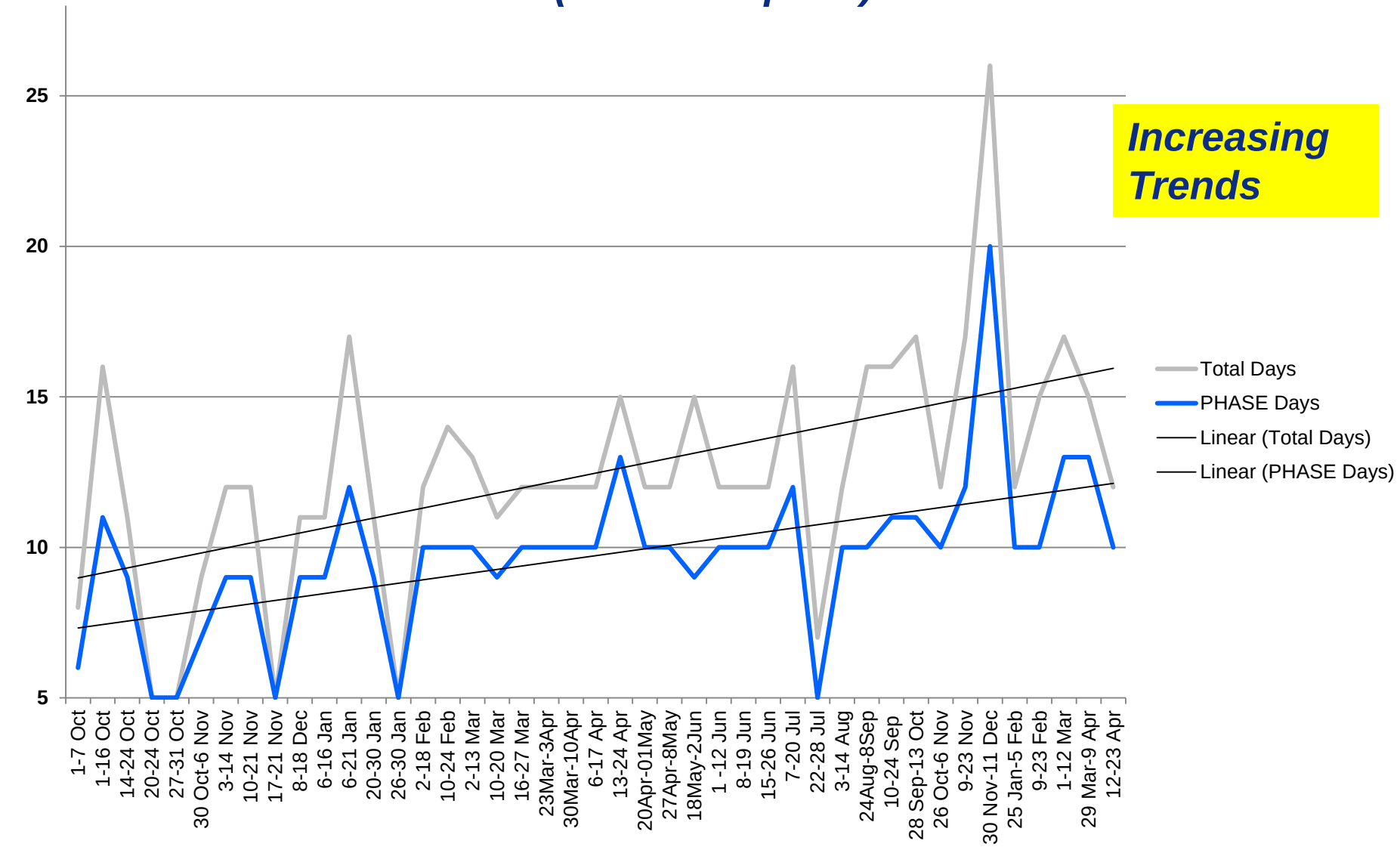
Questions asked?	Elemendorf AFB	Seymour Johnson AFB	Mountain Home AFB	Kadena AB
How many days to complete HPO 1 / 2 / PE?	5 / 7 / 5	5 / 7 / 10	5 / 7 / 10	9 / 6 / 11
How many personnel per dock?	15	17	20	23
2 or 3 shift operation?	3	2 (w/ mid-shift crew to cover all 4 docks)	3	2
How often do you work 12 hour shifts and WE Duty?	Never	Rarely	Rarely	Occasionally
Difficult or easy to roll aircraft on-time?	Some issues. Usually attributed to S/M overextension.	Some issues. Usually attributed to S/M overextension.	Easy. Don't remember the last time one rolled late.	Some issues. Attributed to S/M overschedule and MICAP/lack of carriable assets.
How many F-15s at the base (PAA)?	22	80	72	64
How many F-15 docks?	1	4	3	2
Normal time awaiting MICAP parts?	2-5 days	1-2 days	2-3 days	7 days
How much S/M support do they have and is it dedicated for 2 or 3 shifts?	3 shifts. Decent support.	3 shifts. Good support.	3 shifts. Good support.	2 Shifts. Fair support. (Being red)
How many shifts does Small Gas run?	2 shifts. 48hr turnaround.	2 shifts. 48hr turnaround.	1 shift. 72 hour turnaround.	1 shift. 72 hour turnaround.
How often do aircraft roll with post phase MX (Fuel barn/Depot/MICAP parts)?	Never	Rarely	Rarely	Sometimes
Does QA require 24 hour notice to accomplish their inspections?	No. Very flexible. Inspects shortly after notification.	No. Very flexible. Inspects shortly after notification.	No. Flexible.	24 hour notice req'd. Requested time sometimes needs adjusted.
What type of inspection does QA do (workcards/FQ/forms/etc.)?	Workcards / Forms / Housekeeping	Workcards / Forms / Housekeeping	Workcards / Forms / Housekeeping	Workcards / Forms / Housekeeping

F-15 Phase Performance (Oct 09 – Apr 10)

	Total Days	Phase Days	# of GIGs
Min	5	5	90
Max	26	20	312
Median	12	10	164
Mode	12	10	178
Avg	12.5	9.7	177.2
Std Dev	3.9	2.7	55.9
Variance	15.3	7.1	3120.1
Harmonic Mean	11.0	8.9	161.2

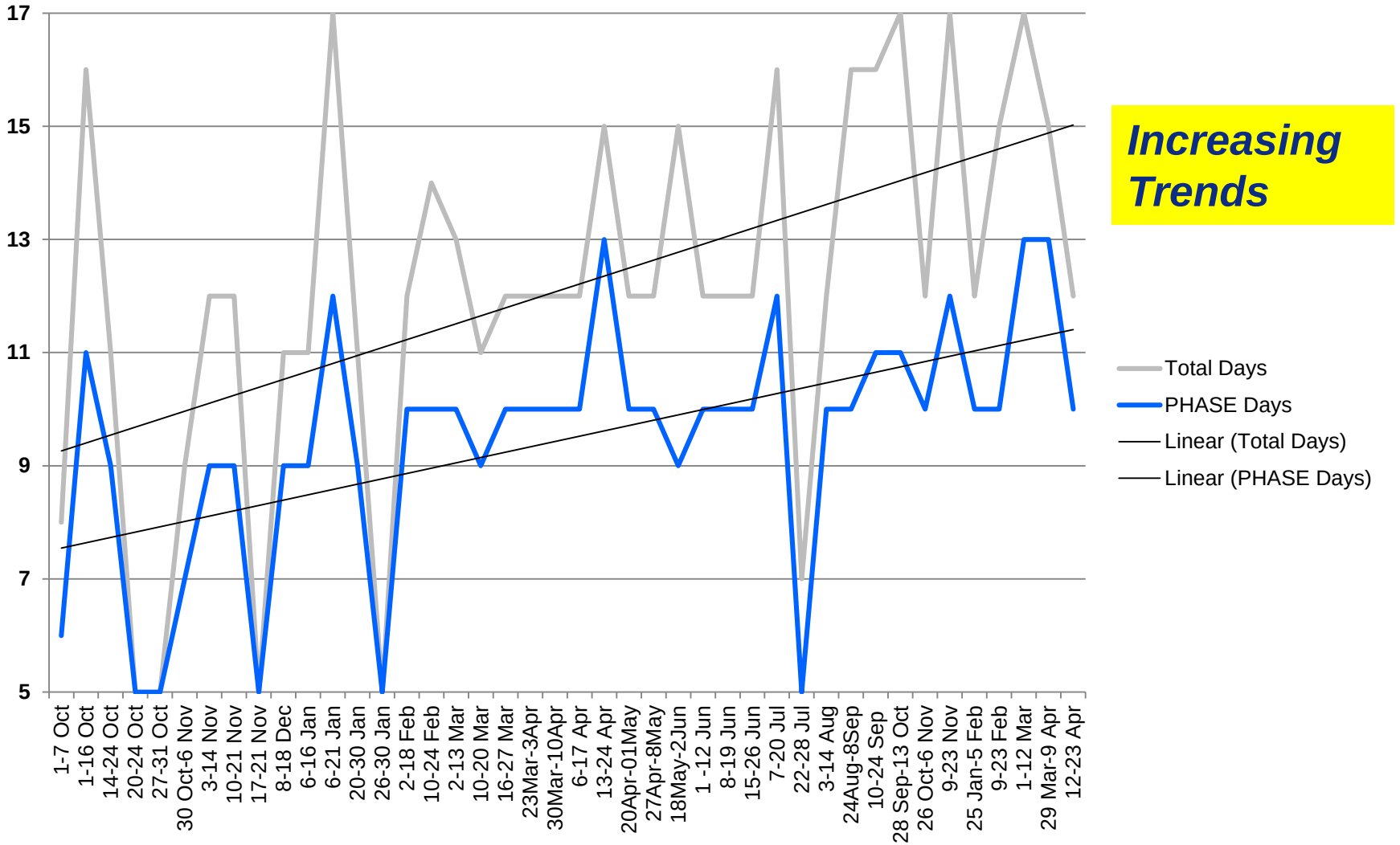
Phase Time Historical Trend

(Oct 09 – Apr 10)



Phase Time Historical Trend

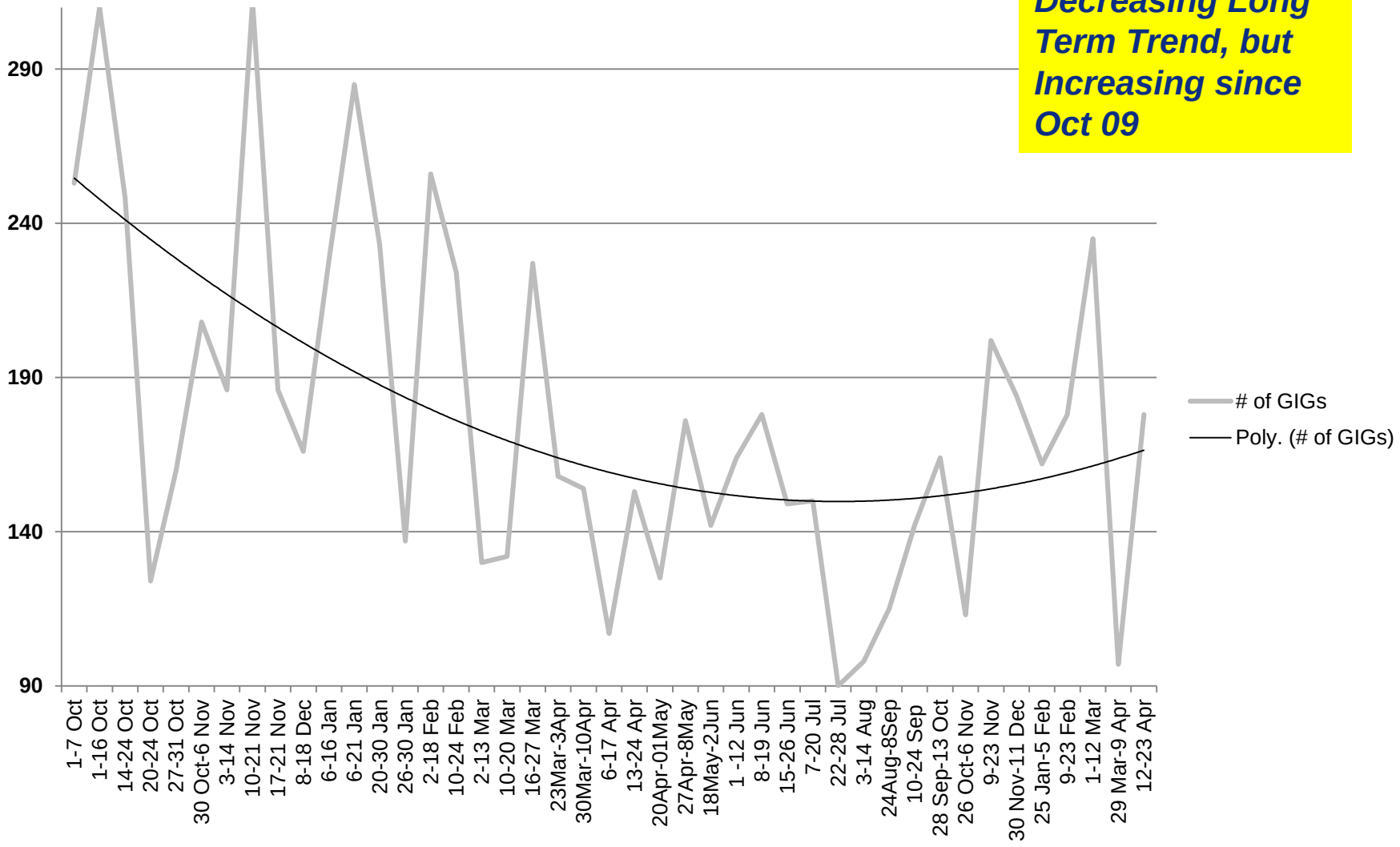
(with anomaly removed)



Increasing Trends

Number of Gigs

Decreasing Long Term Trend, but Increasing since Oct 09



Gap Analysis

Phase Capacity (sorties)	6163
Contract Proposal (sorties)	8052
Gap (sorties)	1889
Phase Delta	**-3.6**

Note: Contract includes attrition and accounts for Suite 6 and Transfers impacts – schedule is 17 phases yr. => Need 21 phases

Gap Analysis

- 17 Phases per year scheduled (single dock, 12-day phase)
- We need to produce 21 phases per year
- 200 duty days available
- 17 phases x 12 day phase = 204 days
- No additional days available to accomplish 4 additional phases
- Phases must be consistently at 9.5 days (back-to-back, no variation, 100% capacity)
- Phases must be consistently at 7.6 days (back-to-back, 20% variation, 80% capacity)
- Required reduction in Phase time is 12 - 7.6 = 4.4 days

Shift Manning and Skill Levels

APG				
	3-Level	5-Level	7-Level	Total
Day Shift	6	4	4	14
Swing Shift	6	7	3	16
Mid Shift	7	4	2	13
Total	**19**	**15**	**9**	**43**

Engines				
	3-Level	5-Level	7-Level	Total
Day Shift			2	2
Swing Shift			1	1
Mid Shift				0
Total	**0**	**0**	**3**	**3**

E/E				
	3-Level	5-Level	7-Level	Total
Day Shift		2	2	4
Swing Shift		3		3
Mid Shift				0
Total	**0**	**5**	**2**	**7**

Grand Total **53**

Personnel Experience

- 53 People

- 12 experienced people total
  - 3 on day shift
  - 5 on swing shift
  - 4 on mid shift

- 5 experienced leaving in 6 months
  - 1 on day shift
  - 1 on swing shift
  - 3 on mid shift

8 Wastes

- D – Defects
- O – Overproduction
- W – Waiting
- N – Non-standard and Over-processing
- T – Transportation
- I – Injuries and Intellect
- M – Motion
- E – Excess Inventory

Go See/Process Walk Observations (Symptoms)

- People walking around like they're lost [W]
- Hydraulic test stand replacement, operation, defective [D,I]
- Aircraft too far away (from everything) tool room, sheet metal, dock box, etc [I]
- Airman sitting around waiting to work for about 90 minutes [W]
- Not enough panel racks [N,I,W]
- Unorganized and cluttered panel racks [N,M]
- Dock box (office) upstairs and a long distance from work [T,M]
- AGE (and jack) storage area too far from work [T,I]
- Opening and closing hangar doors takes 16-20 people approx 30 minutes equivalent 10 manhours (hangar door motor/drive broken) [D,W]
- No floor layout for tools and equipment [T,M]
- Need a vertical tail stand (the stand we have is borrowed, and not dedicated for phase dock use) [N,I]
- Need to re-route, re-work the positioning of hoses and cables (air, cooling, hydraulic, elect, ect.) [W,N,T,M]
- No clearly visible indication of aircraft status (eg. Impounded, power on/off, etc.) [N]
- Airmen/trainees standing around waiting supervision/training and duty assignments [W]
- A lot of extra "stuff" around the acraft (clutter) [E]
- Un-used refrigerator used as a locker [N]
- A lot of AGE everywhere (no designated location for AGE) [N]

Go See/Process Walk Observations (Symptoms)

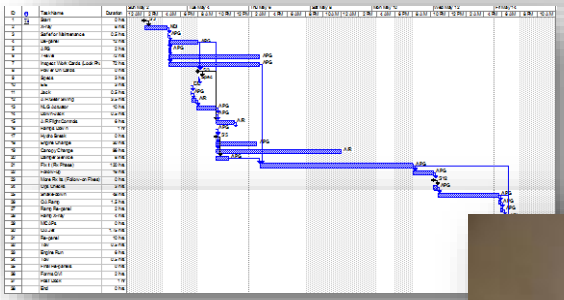
- Canopy rigs – two types of testers, elect and diesel, electric most efficient but seems to be broken frequently [D,W,T,N]
- No dedicated full set of aircraft tripod jacks (only have a partial set, have to borrow jacks) [N,D]
- Used soak-up pads laying on floor (housekeeping, drip pans) [N]
- Mids to Dayshift turnover appeared to have poor communication (some mid shift personnel took 45 minutes to turnover, roll call took 5 minutes) [W,N,T]
- Technical Orders are not co-located with the aircraft (have to walk to/from support section) [T]
- Bench stock does not have a lot of the commonly used items (have to go to other sections to find stuff) [N,T,W]
- Building air conditioning, heating, ventilation is inoperative (have to use portable heaters, electric fans, and open/close hangar doors to control temperature) [I,D,W,N]
- Downstairs portion of dock box (office) under utilized, cluttered [T]
- EMS Aces board out of date [I]
- No production or process flow board (primary visual display) visible in the bay [I]
- Floor cleaner status and use is unknown. [I]
- Bird droppings all over the hangar floor [N]
- Floor markings unclear, not used, not present [N]
- Sound level in hangar – loud especially with running equipment, reverberation makes communication difficult [N]

Go See/Process Walk Observations (Symptoms)

- There is a lot of un-used space in the hangar (excess floorspace/capacity) [E]
- There are no aircraft towing and parking markings on the floor [N]
- People are not checking in with the dock chief when entering the work area (even though there is a sign that directs this, dock chief is upstairs in the dock box) [N]
- No phase flow display in the dock chief office, or out on the floor, or on a computer (dock chief has a notional Excel spreadsheet phase flow, but does not use the flow to manage a phase) [N]

- Waste Types Identified: 35
  - N = 16
  - W = 9
  - T = 9

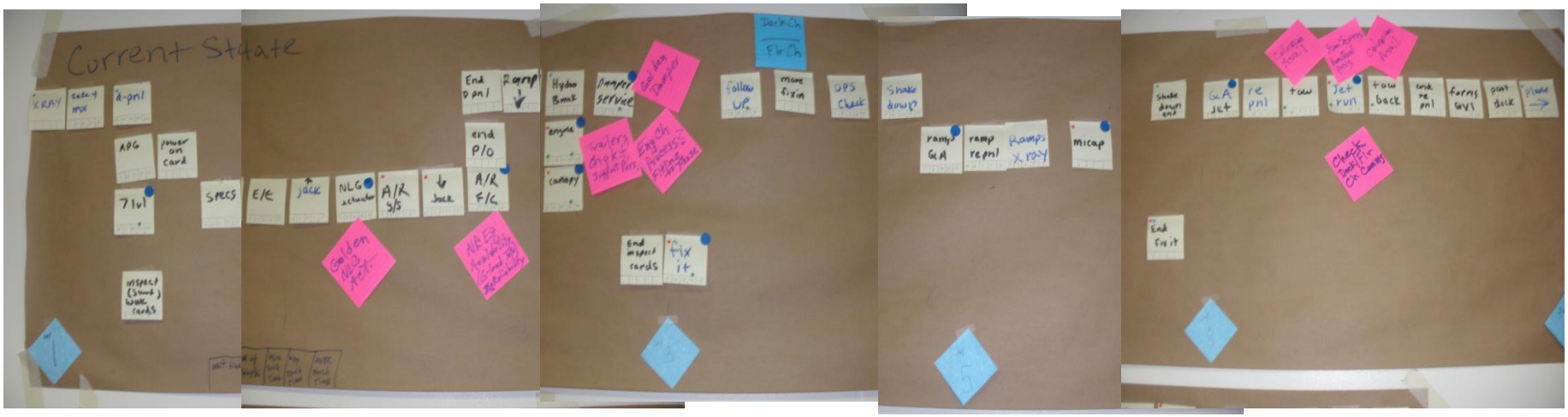
Current and Future State
Tools Used and Principles Applied



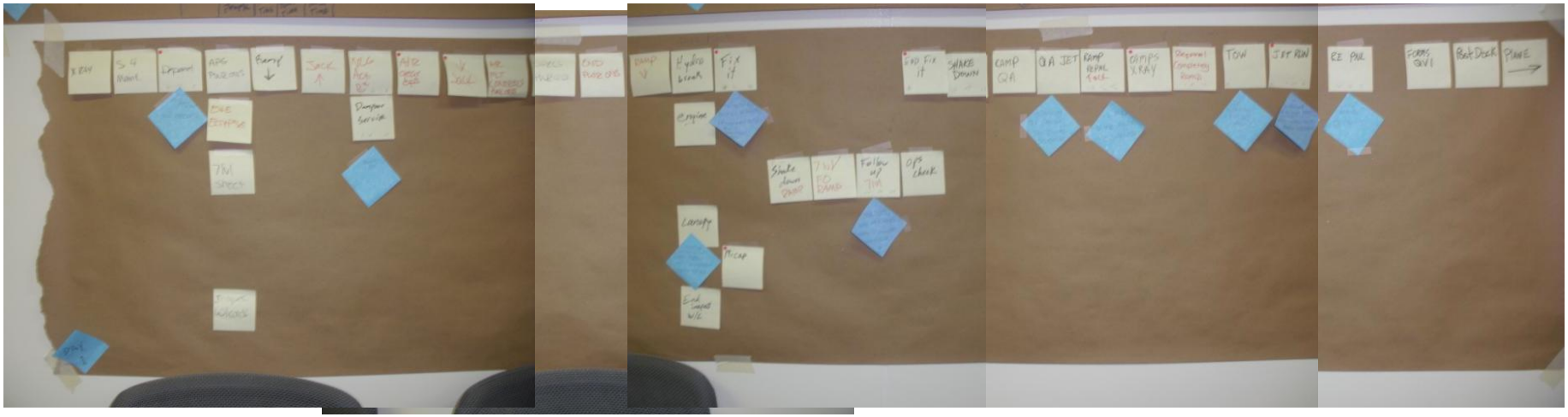
- Value Stream Maps
- Process Walk / Go See
- Waste Walk
- Bottleneck Analysis
- Critical Path
- Gap Analysis
- Root Cause Analysis
- Action Plan
- Standard Work
- Variation Reduction
- Visual Management
- Error Proofing
- KPIs and Metrics
- Performance Management

Value Stream Maps

Current State

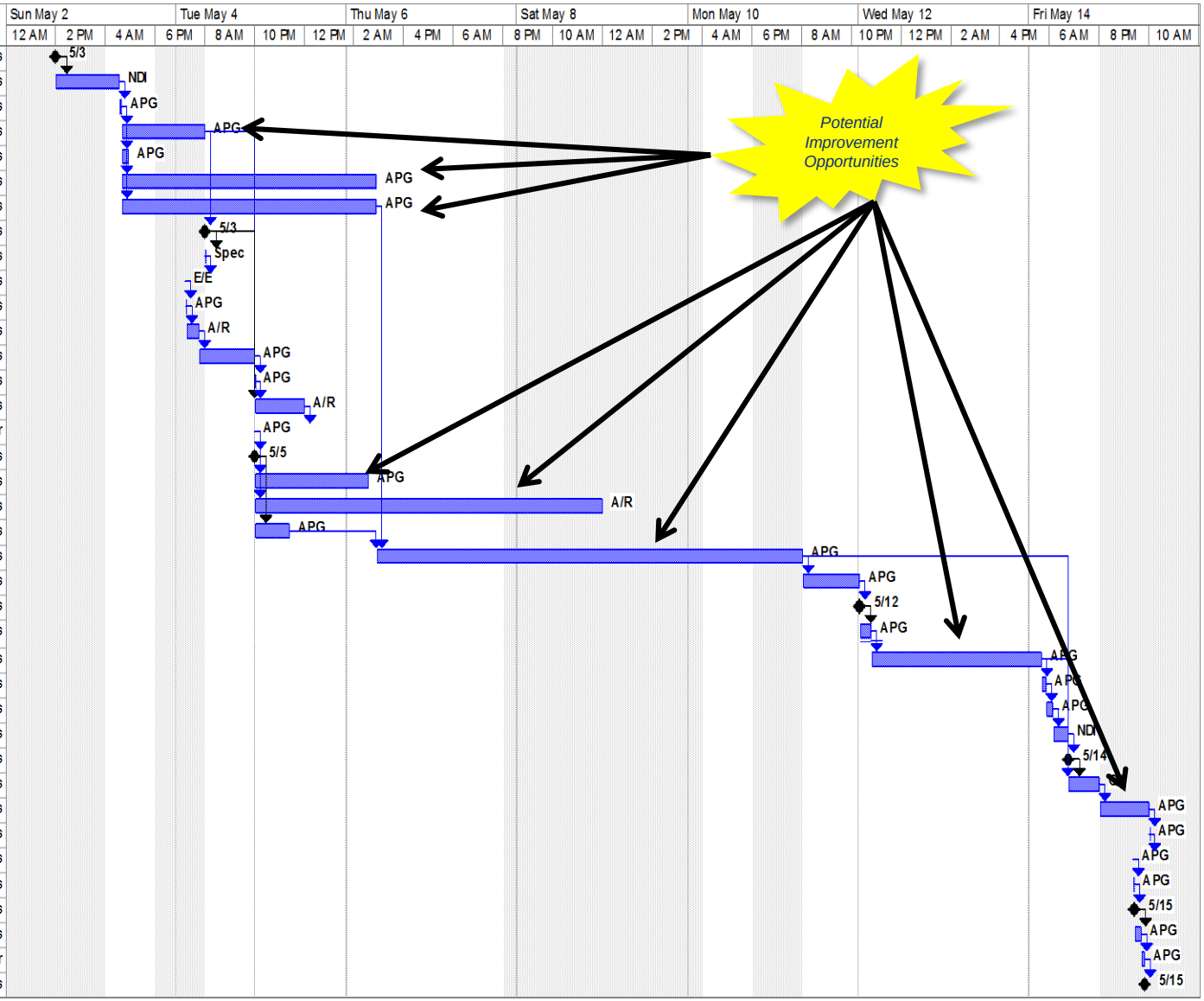


Future State



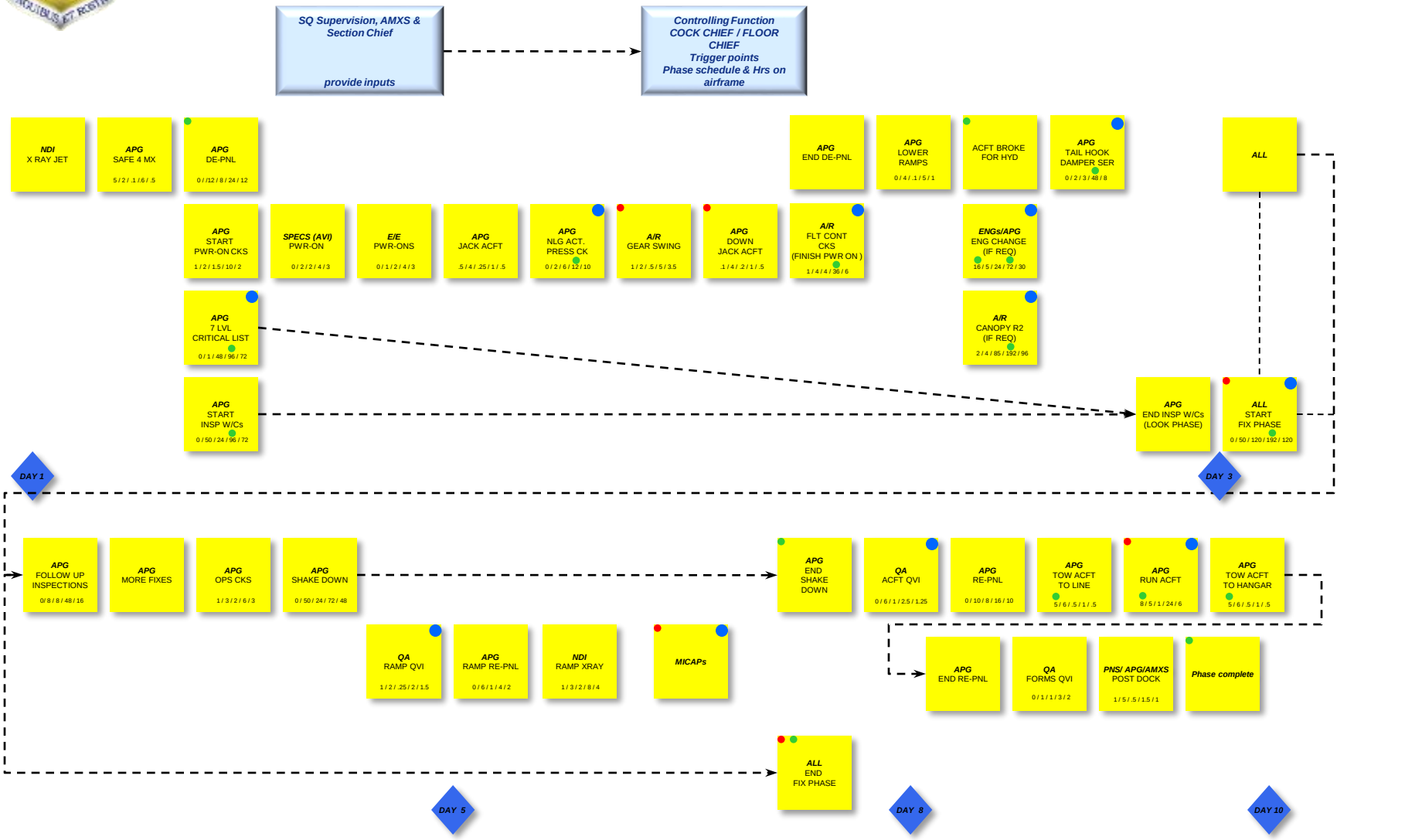
F-15 Phase Gantt Chart – Current State

ID	Task Name	Duration
1	Start	0 hrs
2	X-ray	8 hrs
3	Safe for Maintenance	0.5 hrs
4	De-panel	12 hrs
5	APG	2 hrs
6	7-level	72 hrs
7	Inspect Work Cards (Look Pha	72 hrs
8	Power On Cards	0 hrs
9	Specs	3 hrs
10	E/E	3 hrs
11	Jack	0.5 hrs
12	A/R Gear Swing	3.5 hrs
13	NLG Actuator	10 hrs
14	Down-Jack	0.5 hrs
15	A/R Flight Controls	6 hrs
16	Ramps Down	1 hr
17	Hydro Break	0 hrs
18	Engine Change	30 hrs
19	Canopy Change	96 hrs
20	Damper Service	8 hrs
21	Fix It (Fix Phase)	120 hrs
22	Follow-up	16 hrs
23	More Fix Its (Follow-on Fixes)	0 hrs
24	Ops Checks	3 hrs
25	Shake-down	48 hrs
26	QA Ramp	1.5 hrs
27	Ramp Re-panel	2 hrs
28	Ramp X-ray	4 hrs
29	MICAPs	0 hrs
30	QA Jet	1.75 hrs
31	Re-panel	10 hrs
32	Tow	0.5 hrs
33	Engine Run	6 hrs
34	Tow	0.5 hrs
35	Final Re-panels	0 hrs
36	Forms QVI	2 hrs
37	Post Dock	1 hr
38	End	0 hrs



18 EMS/ Phase inspection

Current State



RESULTS

Total # of Steps 42 / # People 56

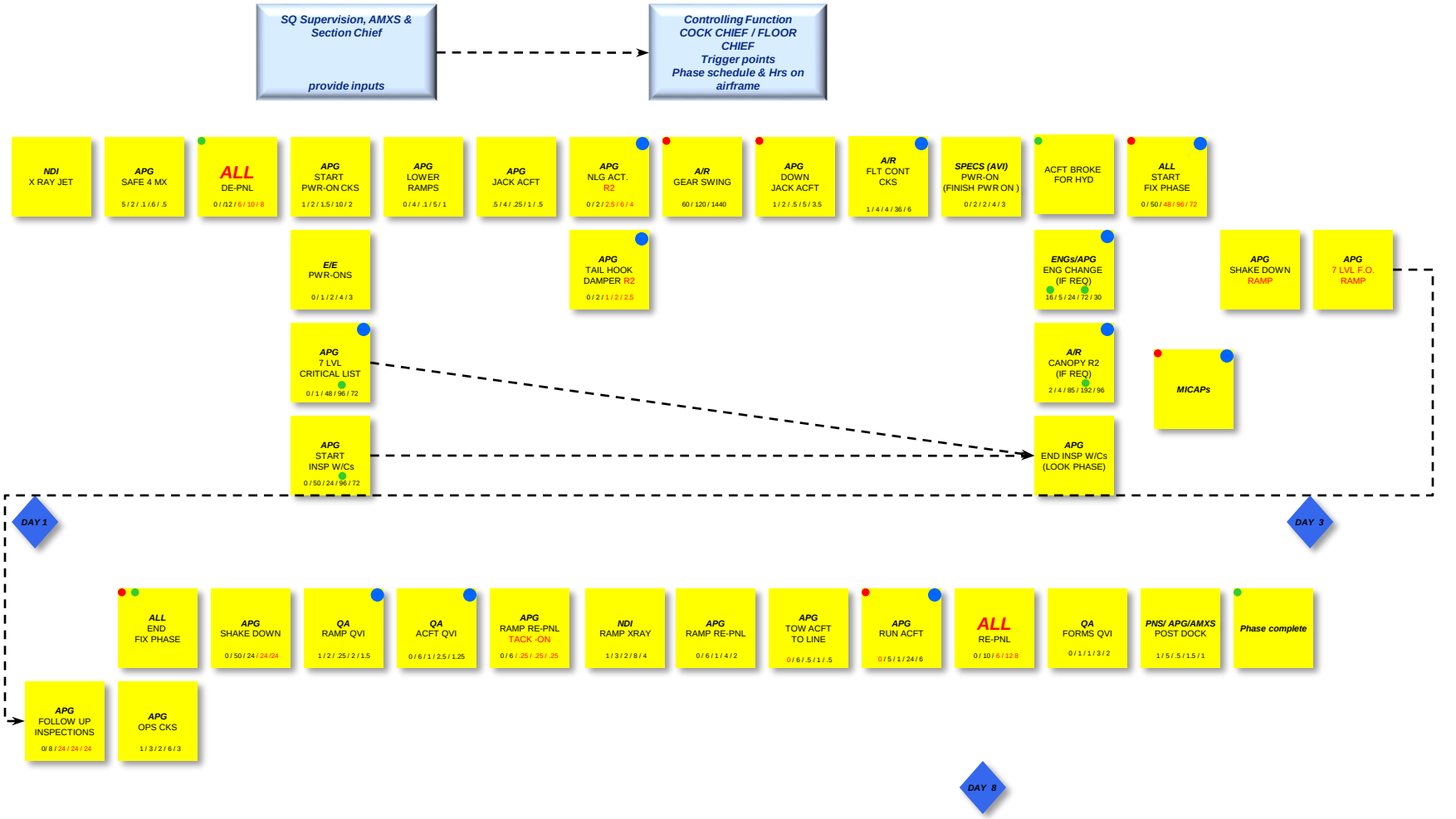
Min Time: 198.9 Hrs

Max Time: 453.6 Hrs

Avg Time: 249.8 Hrs

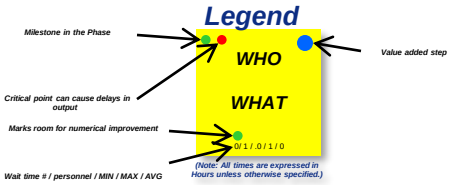
18 EMS/ Phase inspection

Future State



RESULTS

Total # of Steps 40 / # People 56
Min Time: 131.15 Hrs
Max Time: 306.85 Hrs
Avg Time: 167.05 Hrs



18 EMS/ Phase inspection

Results

	Current State	Future State	Delta	
Wait Time	22.7	4.7	-18	*80% Savings*
# of People	56	56	0	
Min Time	198.9	131.15	-67.75	*34% Savings*
Max Time	453.6	306.85	-146.75	*32% Savings*
Avg. Time	249.8	167.05	-82.75	*33% Savings*
# of Steps	42	40	-2	
# of Value Added Steps	11	11	0	
# of Non-Value Added Steps	31	29	-2	
# Critical Steps	8	9	1	
# of Potential Improvement Opportunities	12	5	-7	

Bottom line

8.6 Day Phase…3.4 Days per Phase

𝒳 3 Phase => 20 / yr

Future State Concepts

- Tools & Eq Availability & Scheduling
- Cap Hydro Lines
- Depanel
- NLG Actuator
- Damper
- Tows
- Fix Phase
- Training
- Communication

- Production Board
- Doors
- Panel Rack
- AGE Layout
- Tools Layout
- Equipment Reliability
- Bench Stock (common use)

  - **Themes:**
    - Hangar Layout
    - Control
    - Rotable
    - Scheduling
    - Training
    - Fix Phase

What to change…
Root Cause Analysis and Improvement Opportunities

- **Training**
- **Tools and Support Equipment Scheduling and Availability**
- **Cap Hydraulic Lines during Canopy Change**
- **Communication (Phase Process/Production Board, Status, and Sign In/Out)**
- **Equipment Reliability**
- **Nose Landing Gear Actuator and Damper Change**
- **Hangar Layout**
- **Common Use Bench Stock**

Root Cause Analysis - 5 Whys

Training

- Not enough trainers
- Replacements not qualified (trainers)
- Not enough time to train
- Back-to-back phase
- Delays due to equipment
- * Time management
- Take what training we can get
- Change in priorities
- * 5 of 56 qualified trn

Theme: Training management and control

Root Cause Analysis - 5 Whys

Tools and Support Equipment Scheduling

- **Don’t have/own/broken**
- **Money/motivation**
- *** Work-around**
- **Don’t know who to talk to**
- *** Communication**

Theme: Communication and Standard Processes

Root Cause Analysis - 5 Whys

Communication

- **Internal communication needs improvement (poor)**
- **Not on same page**
- **Separate turnovers**
- **Not organized to have a group turnover**
- *** No standard turnover process**

Theme: Standardized Process, Standard Work

Action Plan

- Depanel – en masse, only depanel with all bodies
  - New standard
  - Construct agreement with S/M and M/T to have designated body first day of phase
  - Cordless drills/more speed handles
- NLG Actuator/Damper – rotable
  - SPRAM acct for hydro back shop
  - Coordinate with hydro
- Canopy Change – cap hydraulic lines for hydro ops check
  - Research QA, policy, AFI
  - Build kit for capping lines
- Fix Phase – planning, task assignments, control
  - Dock chief/floor chief brief
  - Assign tasks with task sheet
  - Individual accountability # c/w, total

Action Plan

- Training – refine required training list by trainee
  - ID gaps
  - Prioritize task all to exp.
  - Partner with appropriate trainee, train
- 7-Level Inspection – New standard – 24 hours max
  - Create a new flow sheet and plan
- Quality Assurance – Hit zones separately, zone concept
  - Research policy, change policy
- Panel Racks – organized by area
  - Utilize 2nd rack
  - Get more racks, customize, shadow panel locations
  - Towable panel rack
- Aircraft Tow for Engine Run – better scheduling of tow truck/coleman, or get a dedicated acft handler
- Qualified Engine Run Personnel – additional personnel trained
  - Coord with FTD for a separate dedicated class
  - Coord with flightline to have seats

Action Plan

- A/R Cross-Utilization Training – APG to A/R for common inspections
- Runscreen – fix
- Re-Panel – en masse, only repanel with all bodies
  - Towable panel rack (eliminate need to tow a/c back into hangar)
- Tools – Coordinate with support
  - Identify all needed tools
- Communication – Create status board visible to <u>all</u>
  - Check in/out board
  - Production control board (phase process board)
- Hangar Door – fix
- Phase Flow Policy Letter – policy letters and AFI Sup
- Floor Layout – Develop better hangar layout
  - Floor layout for acft parking, towing, nose wheel, wing tip, ground equipment, stands, bins, and tool boxes

Action Plan

- AGE – Dedicated AGE (Jacks, mule, etc.)
- Bench stock – coordinate with supply
  - Common use items
  - Create list for suggested items

See Countermeasures Through

- Depanel – en masse, only depanel with all bodies
  - New standard … Shop Policy Letter, Standard Work
  - Construct agreement … Schedule, and Flight Level Agreement/SOP
  - Cordless drills/more speed handles … JDI
- NLG Actuator/Damper – rotable … Phase/Hydro Agreement/SOP, JDI
  - SPRAM acct for hydro back shop
  - Coordinate with hydro
- Canopy Change – cap hydraulic lines for hydro ops check - JDI
  - Research QA, policy, AFI
  - Build kit for capping lines
- Fix Phase – planning, task assignments, control … Standard Work, Policy Letter
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See Countermeasures Through

- Training – refine required training list by trainee … JDI
  - ID gaps
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- 7-Level Inspection – New standard – 24 hours max … Standard Work, Flow Sheet with Milestones and Required Timing, JDI
  - Create a new flow sheet and plan
- Quality Assurance – Hit zones separately, zone concept … Standard Work, JDI
  - Research policy, change policy
- Panel Racks – organized by area … JDI, Cell Design, Error Proofing
  - Utilize 2nd rack
  - Get more racks, customize, shadow panel locations
  - Towable panel rack
- Aircraft Tow for Engine Run – better scheduling of tow truck/coleman, or get a dedicated acft handler … JDI, Standard Work
- Qualified Engine Run Personnel – additional personnel trained … JDI (Training Manager)
  - Coord with FTD for a separate dedicated class
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See Countermeasures Through

- A/R Cross-Utilization Training – APG to A/R for common inspections … JDI (Training Manager)
- Runscreen – fix … JDI
- Re-Panel – en masse, only repanel with all bodies … Standard Work, JDI, Leadership
  - Towable panel rack (eliminate need to tow a/c back into hangar)
- Tools – Coordinate with support … JDI, Standard Work
  - Identify all needed tools
- Communication – Create status board visible to <u>all</u> … JDI, Standard Work, Visual Management, Cell Design
  - Check in/out board
  - Production control board (phase process board)
- Hangar Door – fix … JDI
- Phase Flow Policy Letter – policy letters and AFI Sup … JDI, Standard Work
- Floor Layout – Develop better hangar layout … Conduct AFSO21 6S/RIE Event, Standard Work, Visual Management
  - Floor layout for acft parking, towing, nose wheel, wing tip, ground equipment, stands, bins, and tool boxes

See Countermeasures Through

- AGE – Dedicated AGE (Jacks, mule, etc.) … JDI, Standard Work
- Bench stock – coordinate with supply … JDI, Standard Work
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Avg Time	249.75	167.05	-82.75
# Steps	42	40	-2
# VA	11	11	0
# NVA	31	29	-2
# Critical	8	9	+1
# PIOs	12	12	0

Results

	Current State	Future State	Delta	% Delta
Wait Time	**0.95**	**0.20**	**-0.75**	**79%**
# People	56	56	0	0%
Min Time	8.3	5.5	-2.8	34%
Max Time	18.9	12.8	-6.1	32%
Avg Time	**10.4**	**6.9**	**-3.5**	**33%**
# Steps	42	40	-2	5%
# VA	11	11	0	0%
# NVA	31	29	-2	6%
# Critical	8	9	+1	-13%

Note: times are expressed in number of days
Note: add 2.5 to Current and Future State times for full (end to end) phase time

Results

	Current State		Future State		Delta	
Wait Time	22.7	0.95	4.7	0.20	18	0.75
# People	56		56		0	
Min Time	198.96	8.29	131.15	5.46	67.81	2.83
Max Time	453.6	18.90	306.85	12.79	146.75	6.11
Avg Time	249.75	10.41	167.05	6.96	82.7	3.45
# Steps	42		40		2	
# VA	11		11		0	
# NVA	31		29		2	
# Critical	8		9		-1	
# PIOs	12		12		0	

Return On Investment

People and Time	Number	Hours	Total
Team Mbrs	4	28	112
Assisting Mbrs	2	3	6
Facilitators	2	48	96
AFSO Trainees	3	32	96
Total	11	111	310

Costs	Cost	Quantity	Total
Supplies	$10	1	$10
Expenses	$0	0	$0
Total	$10	1	$10

Time Returned to Airmen = Approx 22,848 Hours/Year (in reduced wait time and re-work waste)

Impact to Aircraft Availability = Approx .9 AA/Year

The Parking Lot...

- Ramps can go fwd in flow
- # run qualified personnel
- Towing – have to borrow coleman
- When exactly is the phase complete
- When exactly does the phase begin
- We accept a/c that are not FMC
- We produce a/c that are not FMC
- Engine change drains manpower
- When do ops checks normally start
- Canopy change can drain manpower
- Canopy rigs… cap hydro lines
- Move A/R as early in the process as possible
- QA policy?
- Continuous refresh/ update of inspection hotlist
- Need to improve 2-way comms (each step) with dock/floor chiefs (comms are mainly one way, esp. specs, sheet metal, A/R)(Check In / Check Out)
- Floor chief needs a vest
- Reserve run screen, better scheduling, or get dedicated eq
- Area gig sheet

Note: All items listed here were addressed at in some fashion during the event. Not all items resulted in action.

Summary

- Required a 4.4 day decrease in time to phase an F-15
- We only expect to achieve a 3.5 day decrease
- Instead of being able to produce 21 phases per year, we can only produce 20
- We need to enable 1889 sorties, only able to achieve 1622
- Represents a 400 flying hour delta (267 sorties short)
- Thus we need to make these up in some other area

- Way ahead
  - Implement plan, 30-60-90 day follow-ups
  - Follow-on event Jan-Feb 11 to prep for V3 Mods