The Push Behind Going to Fixed PED

Pre IMC/P: SDLM / PED Adjusted by ASPA to fit Op Tempo & Budget Constraints

- Unpredictable Depot level maintenance budget
- A/C material condition declining
- Multitude of ISR/PE repairs

Post IMC/P: Fixed PED w/Integrated Maintenance

- Improved Material Condition
- Based on Reliability Centered Maintenance Analysis
- Integrated Maintenance Levels (where appropriate)
- Budget Predictability
CNO DIRECTION

ESTABLISH A PLAN TO TRANSITION TO FIXED OPERATIONAL SERVICE PERIODS THROUGH THE IMPLEMENTATION OF RCM-BASED, SUSTAINED MAINTENANCE PLAN.
TOTAL SOLUTION
ALL PARTS MUST RECEIVE EQUAL CONSIDERATION

Integrated Maintenance Concept/Plan

OPERATIONAL SOLUTION
- Fleet buy-in
- Executability by O and D level
- Supportability

ENGINEERING SOLUTION
- RCM Analysis
- Task Packaging
- Structural integrity

BUSINESS SOLUTION
- Improved readiness
- Depot concerns
- Cost
Integrated Maintenance Concept/Plan

**FLEET BENEFITS**
- Improved Aircraft material condition
- Reduced Depot Out of Service Time, increased Aircraft Availability
- Scheduled maintenance tasks are performed at the right interval, by the appropriate skill level unconstrained by traditional locations.
- Reduced O-level down time and maintenance req’ts
- Reduced In-service Repairs.
- Integration between Sailors and Depot Artisans.

**IMPLEMENTATION**
- S-3B
- F/A-18 A-D
- AH-1W
- E-2C
- H-60B, F, H

**PROTOTYPE**
- UH-1N
- H-53E
- H-46E
- C-2A
- C-130 F/R, T
- EA-6B
- F-14 A-D

**DEVELOPMENT**
- AV-8B

**FUTURE EMPHASIS**
- ENGINES
- Commercially Supported Platforms

**IMC/P LIFE CYCLE**
- RCM ANALYSIS
  - Age Exploration & Sustainment
  - Implement/Monitor
- Maintenance Specification Development
  - Supportability Analysis & BCA
  - Baseline/Transition Execution Planning
  - OPNAV/Fleet Approval

**DEVELOPMENT**

**SUSTAINING**
H-60 IMC PROGRAM BRIEF

11-12 YEARS SINCE LAST DEPOT INDUCTION

Total Operational and Maintenance Service Period

Fixed Service Period (FSP)
EXAMPLES OF BENEFITS SEEN BY THE FLEET

S-3B:
- Reduced O-level down time by 25 days per year
- Eliminated 19K maintenance man-hours per year
- Elimination of Calendar day inspections beyond the 56 day (benefit underway)

AH-1W:
- “SDLM” Cost Avoidance of $830K per A/C inducted
- Reduced Phase Maintenance tasks 50% (from 100hr intervals to 200 hr interval)
- Reduced OTS by 126 days (SDLM 310 days, IMC 184 days over full cycle)

EA-6B:
- Out of service time due to scheduled inspection decreased by 67% (28, 56 and 224 day inspections rolled to the 364 day)
- Post Cruise Inspections revealed that aircraft that have been through a PMI event had a better material condition and less corrosion than was historically noted
Integrated Maintenance Data Collection

• Work Deck

(similar to maintenance requirement cards)

– Maintenance Guide
  • provides standard guide through each maintenance event
  • supports similar rapid maturation of process at all sites

– Data collection template
  • is the template for written feedback from all sites
  • data collection parameters are identical for all sites

– data transfer
  • data entry from work deck into data base
### Task Number 2UY0004

1. Ensure that LES CP 80-50-EE-9238 with Amendment 1 has been complied with. This is a onetime rework of specific areas on the tailboom.

End of Card

<table>
<thead>
<tr>
<th>TASK NUMBER</th>
<th>START DATE</th>
<th>FINISH DATE</th>
<th>MMHRS TOTAL</th>
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Form SOP H1-001-A | Rev 3 Rev Date: 24 May 2002
# Work Deck Card - Back Example

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<th>MAL CODE</th>
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<th>CRIT CODE</th>
<th>TYPE DEFECT / NBNC ETC</th>
<th>WUC</th>
<th>EST RPR TIME</th>
<th>DESCRiptive DEFECT / DESCRIPTIVE REWORK</th>
<th>MMHRS TO REPAIR</th>
<th>DISCR P/N</th>
<th>QA STAMP</th>
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</tbody>
</table>

| L        | FS       |                         |                                 |           |                        |     |              |                                        |                |           |          |
| W        | BL       |                         |                                 |           |                        |     |              |                                        |                |           |          |
| D        | WL       |                         |                                 |           |                        |     |              |                                        |                |           |          |

| L        | FS       |                         |                                 |           |                        |     |              |                                        |                |           |          |
| W        | BL       |                         |                                 |           |                        |     |              |                                        |                |           |          |
| D        | WL       |                         |                                 |           |                        |     |              |                                        |                |           |          |

| L        | FS       |                         |                                 |           |                        |     |              |                                        |                |           |          |
| W        | BL       |                         |                                 |           |                        |     |              |                                        |                |           |          |
| D        | WL       |                         |                                 |           |                        |     |              |                                        |                |           |          |

Form SOP H1-001-A

Rev 3 Rev Date: 24 May 2002
Data Access and Presentation

• IMC Web Site
  – common portal for:
    • data entry
      – example page
    • reports
      – examples
        » standardized reports
        » discrepancies discovered on airframe model
        » mal code frequency
        » mal code frequency times cost in man-hours
  • RCM data entry and analysis
  • messages search
The blue buttons allow the user to browse through the website. The grey bar on the left is for administration. It is not shown on the regular web page.

The next page shows the data entry from remote sites page, and is accessed through the admin area.
## Aircraft Entries

### Data Entry Form

![Image of Aircraft Entries Form]

#### Aircraft Entries Table

<table>
<thead>
<tr>
<th>Location</th>
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<tr>
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<tr>
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<td>WKDK Rev. Date</td>
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**AH-1W**

- **AHAX:** 160744
- **CPNC7W:** AFS8102
- **01-H1AAC:** 0
- **08/09/2001**
- **02/15/2002**

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<th>Instruction</th>
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<td>2YB00</td>
<td>SMM</td>
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**Record:** 1 of 1
### ACCESSORIES AND COMPONENTS REMOVED FOR REWORK AND/OR REF

**NOTE:** Disposition Code (A) = Return to Supply, (B) = Discard, (C) = Repair/Remanufacture, (D) = Facilitate Other Maint

**NOTE:** TSN = Time Since New, TSO = Time Since Overhaul

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<td>TRIPOD CLEVIS LINK @ ACCESSORY</td>
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3D Viewer
3D Viewer Search Engine

![Image of a 3D Viewer Search Engine interface]

**Query Builder**

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<th>Comparator</th>
<th>Search Criteria</th>
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<td>And</td>
</tr>
<tr>
<td>b. MALCODE</td>
<td>=</td>
<td>'020: WORN, STRIPPED, CHAF...</td>
<td>Or</td>
</tr>
<tr>
<td>b. MALCODE</td>
<td>=</td>
<td>'170: CORRODED'</td>
<td>Or</td>
</tr>
<tr>
<td>b. MALCODE</td>
<td>=</td>
<td>'190: CRACKED, CRAZED'</td>
<td>And</td>
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**Discrepancies’ Record Selector... (Filter: MCODE <> 999)**

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Record: 91 of 253
3D Viewer Populated
“Reports”
MAL CODES

AVG RPR TIME X AVG MALCODE TRUNCATED
BACKUP SLIDES
Background

Aircraft Age & Inventory

**AVERAGE AIRCRAFT AGE**

**ACTIVE INVENTORY**

- FY1997 AVERAGES:
  - HELICOPTER: 16.7 YRS
  - COMBINED: 14.7 YRS
  - FIXED WING: 13.6 YRS

**NUMBER OF AIRCRAFT**

**ACTIVE INVENTORY**

- Source: ACTIVE AIRCRAFT INVENTORY FY89-99 BASED ON FY89-96, A-II INV DATABASE, AND A-II JUL 97 REPORT

*DoN in a Shrinking Budget Environment*

Life Cycle Support Costs ratio has increased.
Reliability Centered Maintenance

What is RCM?
A life cycle process that:
- Establishes and adjusts preventive maintenance (PM) requirements for all maintenance levels. Bases PM on the failure characteristics of the equipment
- Allows equipment to realize its inherent reliability at lowest cost

Fleet Benefits
- Improved ACFT material condition
- Increased ACFT Availability
- PM tasks completed at the right interval, by the appropriate skill level unconstrained by traditional locations
- Reduced O-level down time and maintenance requirements
- Reduced ISR cost
- Integration between O/I/D as appropriate

Savings generated by RCM is across the Fleet
- P-3 Flap Actuator $6 Million over 5 years
- EA-6B Landing Gear $7 Million Dollars over 5 years
- T-45 84 day Corrosion Inspection Large Reduction in Labor man-hours and airplane down time
- E-6 Aft Engine Mounts $1.5 Million over life of A/C
- AH-1 Change to IMC 30% reduction labor man-hours 50% reduction in Depot turnaround time

RCM LIFE CYCLE

Develop RCM Plan *

Data collection

Implement, Monitor & Trend Top Degraders

Failure mode analysis

Task Evaluation & Selection

Package O/I/D Maintenance Tasks

Requires PRL funding

* RCM plans is approved by NAVAIR

What is RCM?
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