INTEREST ITEM POINTS OF CONTACT	
CII Action Officer: Mr. Michael Hutchinson	Director: BG William Peck
[(b)(6)]	Mail to: [(b)(6)]
Phone. 4-3516	
Project OPR: (DRPB)	Project OCR's: DO/LG

Bomber Modernization

Current as of:
12Jan 1998

Summary of Changes:
- PBD 753 Plus-Up bodes well for B-1 unfunded priority list (UPL) and COO initiatives
- Fast-7 Block D deliveries continue to Ellsworth, with last 3 a/c due by mid-February
- Navy continues to support IDECM program, while B-1 SPO continues to closely monitor progress
- Sys Requirements Review of B-2 AIT radio highlights nagging development issues, while the static discharge issue continues to be worked by the Independent Review Team
- B-52 Avionics Mid-Life Improvement General Officer Review synopsis, and sustainment impacts
- B-52 ALR-20 RFI Report

Ongoing B-1, B-2 and B-52 modernization efforts ensure USAF bombers retain the ability to attack rapidly and persistently with a wide range of munitions anywhere on the globe, at any time. The B-1 will provide the largest weapon load, maximizing JDAM/WCMD/JASSM kills per pass. The B-2 provides low observability and a capability to penetrate high threat target environments to deliver smart direct attack and standoff weapons. The B-52 delivers additional mass and the widest range of standoff weapons, to include CALCM and AGM-142. A follow-on bomber program is in the earliest stages of development. This sheet provides current information on ongoing B-1, B-2 and B-52 modernization.
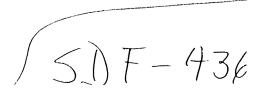
B-1
- **Budget**
  - SAC-D proposing to remove $33M in FY99 for Towed Decoy System. This puts FY00-03 funding at risk also. TDS procures hardware needed for IDECM as well. Failure to fund TDS increases IDECM cost. SAF/AQPB PEM IBRC papers submitted 7/10/98.
  - PBD 753 has funded the B-1 Digital Engine Control (DEC), $30.7 M, with an FY01 start. Still ongoing initiatives to obtain funding for B-1 Link-16. Top three B-1 Cost Of Ownership initiatives being worked by ACC/DR include B-1 Load Contactors, PFS Simulation, and Tailoring ALQ-161 Initiatives.
  - Assisting SAF/AQPB with FY00-05 Supplemental Funding drills. Submitted additional information on B-1 RLG-based Gyro Stabilization System (GSS) initiative, as it's being considered at CORONA.
- **Research, Development, Test & Evaluation**
  - Overall, Block D delivery schedule remained relatively intact. RAA was declared Dec '98. The "Steady State" slip of PDM mods is assessed at 171 vs. 147 calendar days. Causes: a) Installation teams unable to do PDM activity concurrent with Block D installation on certain tasks b) The "Find Number System" the contractor uses to document the mod causes delays c) Problems in the delivered engineering packages require rework.

- First three B-1 Block D delivered to Ellsworth. Remaining aircraft on, or slightly ahead of, revised schedule. Next aircraft deliveries scheduled for 15, 19 Jan, and 25 Feb. Next milestone will be IOC, estimated about April '99.
- Block F, DSUP (IDECM), will be 3-4 months late to need. B-1 SPO is still carrying DSUP Schedule as it's #1 Watch Item, with an anticipated cost growth on the IDECM decoys from about $12K/decoy to about $25K. Briefing to OSD (S&TS-EW) went well. Mr. Grieco endorsed DSUP risk mitigation efforts. He would like to see government compete decoy production in Lot 1 vs. 3 (Navy strategy is SS for lots 1&2 and compete Lot 3). Latest IDECM schedule indicates fully tested and integrated B-1 software will be 4 months late. Boeing is examining impact to DSUP schedule. ACC working level has concurred on IMPLC/1x4 back up plan.
- Decision made to accomplish Block D upgrade using baseline Depot/Fly-in option. Proposed Depot Field Team (DFT) option rejected because of unanticipated $5.8M cost. Additionally, will correct GPS antenna EMP hardening at depot, vice later by DFT option. Cost was $100K and a 3-day slip to proposed Block D delivery schedule. Impact to ACC is no slip in RAA and day for day slip to IOC. Additionally, SPO has informed ACC that the GPS 2000 mandate has slipped to 2005. Questions raised about slowing or delaying Block D delivery schedule (since GPS mandate no longer a forcing function) to save funding were answered with 'stay the course', as fielding a JDAM/GPS combat capability was the higher priority.
- DO signed memo to DR expressing concern over current limitation of simultaneously powering only four missiles per bay vs. eight. DRP working with B-1 SPO and will obtain answer, pending completion of JASSM CDR (Nov 98), and contracted Engineering Assessment (Feb 99). AFMSS V1.01 field release scheduled 1 Nov 98. Final OT&E readiness certification 16 Oct 98. OT&E Readiness Certification of AFMSS has slipped to 27 Oct due to Comm Nav Management System (CNMS) functionality problems. ACC/DRP approved entry into testing, but waived 5 AFMSS A/W/E KPP's, deferred them for correction in Ver. 1.1, so as not to delay remaining Block D capabilities. Crew testing at Eglin scheduled for 9 Nov start. Final OT&E results expected in mid Dec '98.
- **Sustainment**
  - Y2K demo complete. Test was accomplished during 19-23 Oct 98. Preliminary data presented at B-1 IMPR.
- **Training**
  - Block D training system contract was found in default by ASC/JAG. FY 98 funding subsequently taken in Omnibus. The Cockpit Procedures Trainer at the FTU will be available 4Q00. The Weapon System Trainer will be available 3Q01. RAA for Blk D is Dec 98.
    - SPO "Industry Days" at WPAFB 05-09 Oct to address contractor abilities to meet Block D simulator requirements. SPO plans are to place simulators under Training Systems Acquisition (TSA) contract. Contractor proposals expected by Jan '99, with award order of Apr '99. First WST expected delivery date Jun '01.
- **Upcoming Events**

B-2:
- **Budget**
  - Congress increased the B-2s FY99 President's Budget by $50M.
    - Authorization conference language directed LO maintenance and situational awareness upgrades, with the LO maintenance upgrades possibly providing a synergistic approach to upgrade signature performance at the same time.
      - Prioritized package developed as done for FY97/FY98 congressional additions. DR memo to SAF/AQP and PEO/FB with unconstrained upgrade priorities for B-2: classified capability, center instrument display, deployable shelters, next generation LO tailpipes, EGBU-28.

- Debate is still ongoing as to the need for improving RCS.
  - Northrop Grumman believes Tier I is the best thing for the B-2 and is continuing to lobby.
  - The outcome of a 2 December Tier 1 meeting between SAF/AQP, PEO/FB, SAF/AQL, B-2 SPD, ACC/DRPB, ACC/DRZ, ACC/LGFB2, 509BW/OG, and Northrop leadership sent under a separate cover.
    - During AF only session, discussed the **$50M-$70M shortfall** in the funded Alternate High Frequency Materials (AHFM) portion of LO Mx Initiatives (LOMI). This is driven by new costs provided by Northrop. Fallback position would be to use some of the FY99 plus-up to pay the disconnect depending upon the outcome of the Tier 1 issue and the life of the funds compared to when they are needed to fix the disconnect
    - Northrop finally briefed the signature reductions possible with AHFM along side the reductions possible with Tier 1. The new news is that AHFM can take one of two paths: apply the materials in a maintenance friendly configuration (intent of LOMI program) or apply them in a manner that will lower RCS almost as much as Tier 1 (this latter configuration is a required prerequisite for Tier 1). This means Tier 1 isn't designed to reduce LO maintenance time (may even make the situation worse) even though Northrop tried to downplay this issue.
  - ACC and SPO believe there are many undefined risks not included in the Northrop Grumman cost figures.
    - Implementation of a Tier I program will also impact aircraft availability to ACC.
    - In the near term, ACC priority remains the funded initiatives integrating new standoff weapons and LO maintainability improvements, along with the unfunded prioritized upgrades sent to PEO/FB for the FY99 Congressional "Plus-up."
- Bottom Line: AF should stay the course and fix AHFM funding, test AHFM on AV-3 in FY00 per schedule, then decide what's next for survivability improvement (if anything) based on test results and threat projections. An offer to use $3-5M of the plus up for a survivability study could be offered if a good faith gesture is required.

- **Research, Development, Test & Evaluation**
  - Airborne Integrated Terminal (AIT) and Mission Management Function (MMF) upgrade
    - AFPEO/FB approved a UCA to start work on the integration of the AIT radio. The AIT adds BLOS UHF SATCOM voice and data. MMF is a software-only upgrade providing automatic mission updates inflight. AIT/MMF are funded with a portion of a FY98 congressional plus-up (total cost is $132M). The entire fleet will be modified in FY03.
    - The System Requirements Review was held in Pico Rivera on 15, 16 December. Overall, development of the system is progressing well, promising great potential. Northrop pointed out the AIT does not possess a bomb tone function for radar scoring weapon releases. Wing input verified this would not be a problem, as the function is not currently used. Northrop also briefed their view of Mission Management Function, and basic operations. Their planned implementation does not allow an "undo" mode. Once the crew accepted the mission update, EOB change, or target change, the software eliminates the original copy of the file, even though the crew couldn't view the updated file to verify its accuracy until after it's accepted. Northrop Grumman was told this was not acceptable; the aircrew needed more control over the files than the implementation allowed. Input was provided to the group, and Northrop is revisiting the approach. ACC stated the crew needs ability to receive target imagery inflight along with a target change. Current MDU's have little capability to display this data, so a concept to run an interface port to the cockpit, then to a laptop or a printer is under study. Eventually, they could be displayed on a Center Instrument Display
  - JSOW integration issues:

- Raytheon reports that that the redesigned thermal battery will undergo explosive atmosphere testing and be fully qualified by 8 Feb 99. Battery production as currently projected should support flight test and JSOW production. The new battery is a 'can in a can' design.
- JASSM integration scheduled from FY99-FY02. SPO currently is initiating contract actions.
- Static Discharge
  - Northrop assessed the status of some aircraft at Whiteman and Palmdale for theoretical vulnerability to future static discharge events. Information was presented on 22 December.
  - This new assessment shows that other aircraft are still at risk, although they have not yet experienced static discharge events.
  - The Independent Review Team chartered to review the issue concluded Northrop's proposed changes are sufficient to prevent this type of event in the future, but they do not preclude damage by "streamers," similar to a lightning event. The team presented a recommendation to clarify the tech orders regarding when to accomplish repairs on the leading edge.
- Contractor generated EFX99 proposal not being favorably rated due to costs for implementation.
  - 509BW supports effort.
  - No chance to fund from baseline program without impacting capability elsewhere.
- **Procurement**
  - SPO directed to procure initial lot aircraft maintenance shelters.
    - SPO will procure one deployable shelter for test purposes in FY98 with baseline dollars.
    - Plan being developed to procure initial lot.
    - Deferred second lot further out to allow time to assess benefits from LO material improvements.
  - Continuing to spend 3010 funds on the Long-Term Software Support Lab, spares, and ICS.
  - The most recent Whiteman delivery was AV-11 (88-0332) after completing its HM/HS testing at Palmdale, and the latest, and last, return to the mod line was AV-18 (93-1085) on 17 December. AV-9 has not completed its static discharge repairs, and not yet re-delivered. All B-2's are now in the Block 30 configuration; future deliveries will now increase the number of aircraft.
- **Sustainment**
  - Finalized the first post-EMD software sustainment build (P1) in mid-February.
    - Will correct 230 of the 2,500+ outstanding deficiencies/needs by Sep 99.
  - The second software build, P2, will begin in Jul 98 and deliver in Jul 01.
    - Subsequent builds will begin every 18 months and last 3 years.
    - Numerous Low Observable (LO) maintenance enhancements being added.
    - Wing operations adequately funded for stand up of second squadron and ramp up to 21 a/c.
- **Upcoming Event**
  - **Y2K Testing:** The Program Office is planning to test the aircraft for Y2K compliance, to include ground and flight tests. Ground testing will include the use of a GPS "spoofer" used in the B-1B tests, providing GPS signals from future dates. As the "spoofer" cannot be used inflight, the program office is working to obtain a modified GPS receiver to put into the aircraft to receive the GPS signals, then apply a bias to them, providing a GPS input from a future date. The bias provided in the modified MAGR will be variable, providing flexibility in exact date and time. Primary test limitation is the inability to drop a JDAM using it's GPS guidance, due to the difference between apparent aircraft ("virtual") time, and actual date/time of the flight. An inability to change the stars also precludes the use of the astro-tracker during this flight. Preliminary lab testing is scheduled for 11-17 Jan 99, aircraft ground testing at the end of January, and flight test in late May 99.

B-52:
- **Budget**
  - Recap of Avionics Mid-life Improvement (AMI) General Officer Review:

- OC-ALC has presented a new ROM for AMI which shows the program roughly $50M short due primarily to underestimation of software development and rewrite tasks and flight test
- $3.1M is still required in FY99 to upgrade the System Integration Lab (SIL) software prior to starting work on aircraft software development.
- Installs slip one year without this funding. AFMC has finally claimed responsibility for upgrading the SIL, which has been identified as an EEIC 3080 task. However, AFMC also said there is no 3080 available at this time.
    - An additional $10M for SIL software is part of the $50M shortfall and may also be funded by AFMC. BGen Luebbert, OC-ALC/CV, stated AFMC would continue to search for appropriate funding avenues, but there would be impacts to ACC funding. No hint given as to what those impacts might be.
    - OC-ALC and the Air Staff PEM will work a ZBT to move funding from EEIC 583 to 3600 for the yearly SIL/Mainframe/Test Support task which was correctly moved from EEIC 583 by ACC/LGY.
- OC-ALC is not confident AFMC will produce the $3.1M necessary in FY99. The ACC B-52 PEM submitted an updated ROM to the Power Pro Panel on 8 Jan. It assumes no FY99 money, and increases installs in FY06-07 to make up for the year slip. The existing B-52 INS is predicted unsupportable in FY06. Most of the plus-up is requested outside the FYDP.
- AMI will provide new processors and Y2K compliant software language, INS, data loaders and system integration lab and mainframe development computer for $210M.
- **Procurement**
    - 53 B-52s currently have GPS and MIL-STD 1760 capability. Congressional plus-ups for the 23 Attrition Reserve aircraft provide enough funding to modify 79 aircraft with GPS and the 1760 bus. These mods should be complete by 1QFY01. All other mods being worked for 71 aircraft.
- **Sustainment**
    - Recap of Avionics Mid-life Improvement (AMI) General Officer Review:
        - A primary sustainment concern was an apparent increase in predicted life spans of both INS and ACU in OC-ALC's QAPR brief. LtCol McGinley, B-52 SPD, explained OC-ALC and WR-ALC have, in the last year, initiated new maintenance and repair management actions, extending the predicted lifespans. Actions include fixing rather than condemning critical INS components, qualifying a new vendor for a non-repairable item, and procuring AMARC assets. However, only 44 aircraft processors were found at AMARC, and WR-ALC was counting on 200. DRP & LGF are concerned the new predictions are optimistic at best, leaving no margin for error, given the proposed AMI program mod schedule. Even with these management actions, an FY00 start is essential for both INS and ACU replacement. OC-ALC's QAPR brief didn't articulate this urgency, risking slipping the program 1 year to fund perceived higher priority FY00 programs.
- **Research, Development, Test & Evaluation**
- Installation activity begun at Barksdale, preparing for the first ECM Improvement (ECMI) mod tests.
    - DT&E ground testing of the primary test aircraft (PTA) begins 18 Jan 99; DT&E to end 8 Apr 99
- Projected force development evaluation (FDE) start is 9 April '99; estimated end date is 3 June 99.
- Boeing has consolidated the findings of their RFI to industry for options to replace the aging ALR-20 Panoramic Receiver System. They brief the B-52's ECM community on 14 Jan.
- **Upcoming Events**

(c)

SDF-43h