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B53 REPLACEMENT PROGRAM

Presented to

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B61-11 Program Genesis

- Sep 94 - NPR recommends B53 replacement
- Feb 95 - NWC approves B61-11 concept
- Jul 95 - Congress approves DOE request to start B61-11 effort. ATSD(AE) tasks Air Force to lead joint effort. B61 LPO briefs program plan to NWCSSC on 15 Nov 95.
- Aug 95 - B61-11 program starts

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B53 Replacement on the B-2

– NPR Implementation Memo specifies the B53 be replaced by a modified B61-7 carried by the B-2

• Design the B53 Replacement to not require B-2 developmental flight tests

– B61-11 (The Duck)

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Getting the B61-11 onto the B-2

- 25 Sep EXWG Meeting
 - Presented four B61-11 options
 - Coordinated for 5 Oct MAWG meeting
- 26 Sep Meeting W/NGB2D aero analysts
 - Determined NGB2D's weapon requirements
 - Technical Interchange Meeting
- 5 Oct MAWG and EXWG Meeting
 - Down selected to two options for SPO/NGB2D analysis

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B61-11: Option 1 (Baseline)

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Mission Capability: Unsatisfactory

Cost: Highest B-2 Risk: Lowest

Schedule/Complexity: Highest

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B61-11: Option 2

Mission Capability: Unsatisfactory

Cost: High

B-2 Risk: Low

Schedule/Complexity: High

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B61-11: Option 3

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Mission Capability: Good

Cost: Low

B-2 Risk: Moderate

Schedule/Complexity: Moderate

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B61-11: Option 4

Mission Capability: Best

Cost: Low

B-2 Risk: High

Schedule/Complexity: Low

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Selected Options for Analysis

- Options 3 & 4 proposed for B-2 analysis
 - Each option with and without a drag cone
 - 6 degrees of freedom aerodynamic computer analysis by NGB2D
- Option 4 may require DT&E flight test
 - Captive carry, vibration fly around, vibration & acoustic
 - Single release
- One DT&E release may be prudent for either option
 - No program precedent for certification
- Scope limited by available budget and B-2 Cap
- Use B-52 flight test for ballistic and weapons testing
 - Funded in FY97, could swap for use in FY96 if needed



B-2 Integration Concerns

- How much similarity is required for release from the B-2?
- Answer:
 - C.G. is the most important military characteristic for near-field ejection
 - Weight, moments and weapon shape can be secondary effects
 - B-2 Rotary Launcher Assembly bomb releases have proven the stability of the weapon release environment
 - Gives high confidence in computer predictions
- SNL fine-tuned Options 3 & 4 to center the c.g. between the lugs



B-2 Integration Concerns (cont.)

- Will DT&E flight tests be required?
- Partial Answer:
 - Based on the prior answer, **No** according to NGB2D
 - CTF position may be different
 - Needs resolution
 - Single demo release
 - Sensitivity on this issue from the DT&E community.



B-2 Integration Concerns (cont.)

- If weight, moments, and shape change; will nuclear weapon surety require developmental flight test?
- Status:
 - SNL and NWI are working the issue with AF Safety and NWSSG
 - Closure by 25 Oct, or at least timeline and plan for closure by then



B-2 Integration Concerns (cont.)

- Will unique controls and displays be required for nuclear surety or contract issues?
- Need Answer:
 - Closure by 25 Oct, or at least timeline and plan for closure by then
 - However, this answer will not drive the near-term schedule



Mission Analysis Issues

- Does this weapon satisfy USSTRATCOM requirements?
- Answer: Yes



Mission Analysis Issues (cont.)

- Will ACC fly the required delivery profile?
- Initial Answer: Yes
 - At AO level, if STRATCOM says this mission profile meets the requirement, ACC will fly it
 - STRATCOM/J5 drafting a memo to ACC requesting they train and fly the required delivery profile.
 - ACC (DRY, DON, DOTZ, LGM) will coord on planning and training



Schedule Issues

- What is the timeline for acquisition and fielding?
- Status:
 - Working to minimize acquisition time
 - Options 3 & 4 easier to build than the baseline design
 - Estimate cutting 6-9 months off the acquisition schedule
 - Other factors are TBD until we have a bomb design to work from
 - Air Force assumes the DOE will not be idle while aircraft compatibility is on-going
 - » Are there parallel activities DOE complex can complete during this time to minimize overall schedule



Near Term Schedule

REQUIREMENTS FINALIZED	18 Oct 95
NWSSG ISSUES RESOLVED	25 Oct 95
NGB2D ANALYSIS TASKED	14 Nov 95
NGB2D ANALYSIS COMPLETE	1 Feb 95
B-2 TEST REQUIREMENTS CLOSURE	TBD

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Final Comments

- B61-11 Program has come a long way in 3 months
 - MC and STS close to final form
 - Finalized two designs that meet requirements
 - » Obtained buy-in from all players (STRATCOM, ACC, HQ AF, OSD, DOE, Labs)
 - Close to satisfying safety and surety community
 - Some loose ends remain, but rapidly tying them up
- **WE** need to do everything possible to have this program completed by the end of []

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