

Headquarters U.S. Air Force

Integrity - Service - Excellence

Nunn-McCurdys Aren't Fun!



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Agenda

- **National Security Space Enterprise (NSSE) acquisition programs health concerns & Nunn McCurdy breach**
- **Role of systems engineering**
- **“Back to Basics” block strategy**

Our programs are only as good as our people



Nunn-McCurdy Breach Defined

- **Breach definition**
 - **“Infraction or violation of a law, obligation, tie, or standard”... and**
 - **“Broken, ruptured, or torn condition...”**
- **Nunn-McCurdy breach when PAUC or APUC exceed baseline value by 25%**
- **Two 1990’s flagship programs experienced Nunn-McCurdy breaches**



Nunn-McCurdy Law Requires

- **SecDef must address four questions:**
 - **Is the program essential to national security?**
 - **Are there alternatives?**
 - **Are new cost estimates reasonable?**
 - **Can management control costs?**

- **SecDef has three program certification options:**
 - **Certify “as is” with updated cost & schedule**
 - **Certify “as restructured”**
 - **“Not Certify” - TERMINATE**



Space Breach Programs - SBIRS

- **Part of Total System Program Responsibility (TSPR) experiment**
- **SBIRS breach in 2001**
 - **Restructured, BUT...**
- **2005 breach again**
 - **IPT – restructure**
 - **Management changes**
 - **Other impacts**



SBIRS Breach Root Causes

- **Systemic shortfalls in systems engineering:**
 - No systems engineering master plan
 - No consistent requirements management
 - No single/linked integrated master schedule

- **Systemic industrial base issues with:**
 - Business practices
 - Personnel
 - Economics
 - Industrial capacity



Space Breach Programs - SBIRS



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Space Breach Programs - NPOESS



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Space Breach Programs - NPOESS

- **NPOESS strategy: sacrifice cost and schedule to maintain performance with overruns paid from management reserves, program slips and accepting increasing risk**
- **When NPOESS Nunn-McCurdy breach announced**
 - **PAUC = 82% APUC = 202%**
- **NPOESS Nunn-McCurdy certification strategy:**
 - **IPP + restructure (fewer spacecraft and fewer sensors)**
 - **Government and contractor management structure change**
 - **NPOESS PEO established**
 - **Chief Systems Engineer position established**



Lessons Learned

- **Unbridled optimism regarding cost, schedule, performance, and risks is a recipe for failure**
- **Lexington paper scenario**
 - **Understated costs leads to lower budget**
 - **Leads to industry bidding price less than budget**
 - **Leads to lower award price**
 - **Leads to government repeatedly changing scope, schedule, budget profile, etc.**
 - **Leads to five to ten years later recognition “real” cost multiple of bid**
 - **Leads to Nunn-McCurdy Breach**



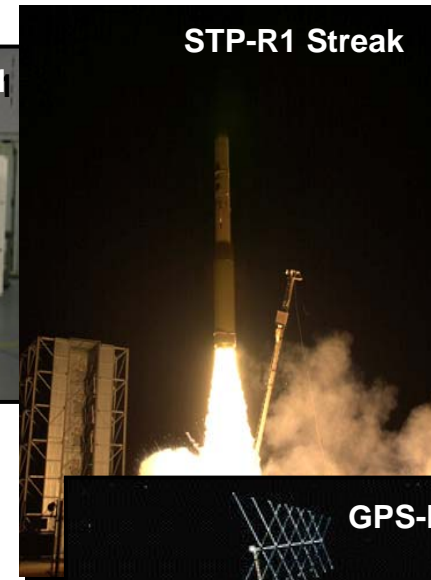
Lessons Learned

- **Reward “Being Honest”**
- **Budget to probable costs**
- **Break programs into more manageable blocks**
- **Recognize that TSPR doesn’t work**
- **Incorporate “Back to Basics” strategy**



“Back to Basics” Acquisition

- **Four-stage process**
 - **Science & Technology**
 - **Technology Development**
 - **Systems Development**
 - **System Production**
- **Apportion risk among the stages**
 - **Highest risk in S&T**
 - **Base production on mature technology for lowest risk**
 - **Shorten cycle time**
- **Incremental deliveries**
 - **Block approach**





Closing

- **Every program is vulnerable**
- **Keep it simple**
- **Close program management**
- **Realistic budgets**

Systems engineering underpins success