

REQUIREMENTS FOR A CONVENTIONAL PROMPT GLOBAL STRIKE CAPABILITY

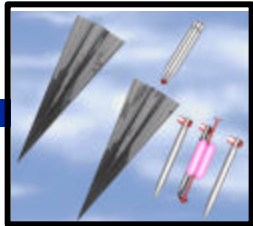
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**NDIA Missile and Rockets Symposium and Exhibition
May 2001**

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Report Documentation Page

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|--|--|--|
| Report Date 14052001 | Report Type N/A | Dates Covered (from... to) - |
| Title and Subtitle Requirements for a Conventional Prompt Global Strike Capability | Contract Number | |
| | Grant Number | |
| | Program Element Number | |
| Author(s) Bille, Matt; Lorenz, Rusty | Project Number | |
| | Task Number | |
| | Work Unit Number | |
| Performing Organization Name(s) and Address(es) Anser | Performing Organization Report Number | |
| Sponsoring/Monitoring Agency Name(s) and Address(es) NDIA (National Defense Industrial Association 2111 Wilson Blvd., Ste. 400 Arlington, VA 22201-3061 | Sponsor/Monitor's Acronym(s) | |
| | Sponsor/Monitor's Report Number(s) | |
| Distribution/Availability Statement Approved for public release, distribution unlimited | | |
| Supplementary Notes Proceedings from Armaments for the 2nd Annual Missiles & Rockets Symposium & Exhibition, 14-16 May 2001 sponsored by NDIA., The original document contains color images. | | |
| Abstract | | |
| Subject Terms | | |
| Report Classification unclassified | Classification of this page unclassified | |
| Classification of Abstract unclassified | Limitation of Abstract UU | |
| Number of Pages 17 | | |

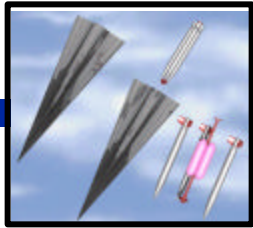


What is Prompt Global Strike (PGS)?

- **Definition:** Rapid delivery of conventional weapons at intercontinental range
- **Focus:** Conflicts or Emergencies requiring rapid surgical strikes of limited scope

PGS Mission Need Statement (draft v.8):

“The PGS mission need is to globally strike and precisely apply force against specific targets swiftly to achieve desired weapons effects. The need includes the ability to strike high-value, difficult-to-defeat targets when most vulnerable from beyond range of an adversary’s ability to respond, thus minimizing effects of counter-access strategies.”

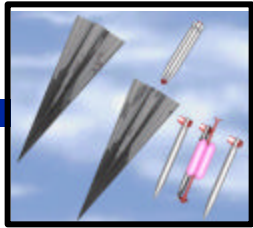


Why PGS?

- **Threats to US interests have multiplied, diverged since end of Cold War**
- **Forward-Deployed and –Deployable Forces (FDFs) limited in number, very expensive, and face anti-access strategies**
- **Adding a PGS as complement to FDFs could allow faster, cheaper response with reduced risk**

Air Force Doctrine Document 1 (AFDD-1):

"US forces overseas have been reduced significantly, while rapid power projection based in the continental United States has become the predominant military strategy."

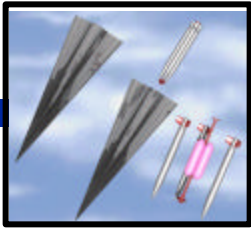


PGS Response Time

- **PGS timeline must be as short as technology allows:**
- **Tactical Ballistic Missiles (TBMs) take 2-4 hours to deploy, set up, and launch**
- **Other targets (aircraft arming for strike, submarines leaving port, etc.) also vulnerable only for short times**



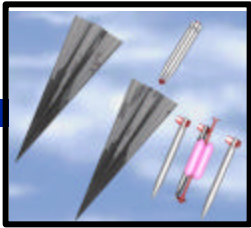
Limits on Current Solutions



- **Air Expeditionary Forces (AEFs):**
 - Need prepared airfields in theater
 - Need 48 hours or more to deploy
 - Distant air strikes from US need massive logistic support and in-theater escorts
- **Carrier Battle Groups:**
 - Navy says too few to cover all trouble spots
 - Response time can be over 96 hours
 - Limited to strikes a few hundred miles from carrier



Iraq's conquest of Kuwait was a surprise to the US and was completed in 36 hours.



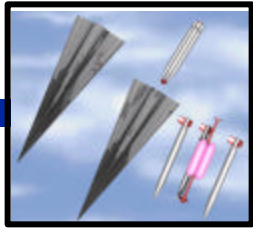
Anti-Access Threats

- **Politics (basing, overflight rights) always problematical**
- **Adversaries will counter US conventional strength by:**
 - **Using missiles and WMD against ports and airfields**
 - **Missile strikes, WMD, and unconventional strikes against deployed forces**
 - **Intimidating local nations into denying US access**
- **National Defense Panel Study predicted a future in which US would be unable to deploy without high risks, casualties**



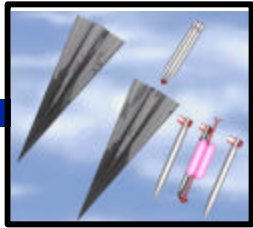
USS Cole,
October 2000

According to the Rumsfeld Commission, 25 nations have or are acquiring WMD. Several of these have or are acquiring long-range missiles.



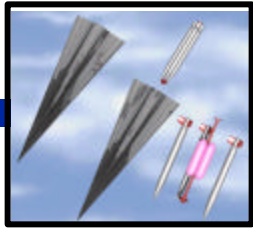
Formal Requirements

- **PGS MNS sponsored by AFSPC. Based on:**
- **Defense Planning Guidance; requires ability to “project military power rapidly across great distances”**
- **AFSP Mission Area Plan; established specific requirement for “conventional global, prompt response” with total response time in “hours” and less than one hour between strike order and target destruction**
- **PGS supports approved Mission Need Statements for Hard and Deeply Buried targets, Strategic Relocatable Targets, and Agent Defeat Weapons**



Doctrine, Strategy, and Studies

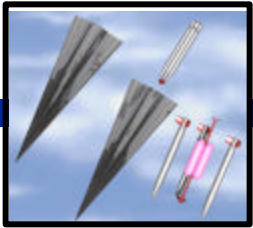
- ***USSPACECOM Long Range Plan*** required “On-Demand Force Application” delivering precision weapons “anywhere in the world within 90 minutes of launch”
- **1997 National Defense Panel Report:** need “conventional, non-nuclear deterrent capability against use of WMD”
- **Similar Requirements in:**
 - *Air Force Basic Doctrine*
 - *Joint Vision 2020*
 - *USAF Annual Planning and Programming Guidance*
 - *Air Force Strategic Plan* and *AFSPC Strategic Master Plan*
 - *AC2ISRC C2ISR Critical Capabilities*
 - *Navy MNS for a Joint Tactical Strike Capability*



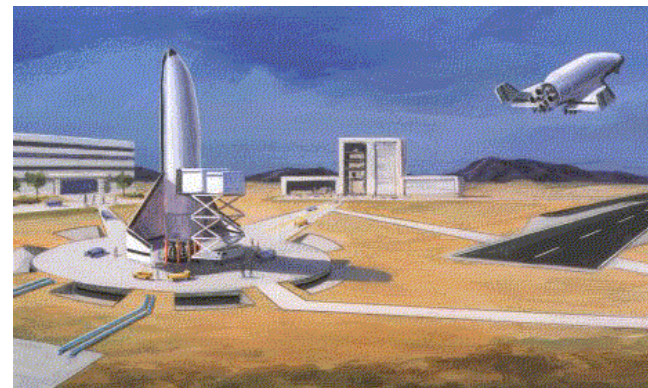
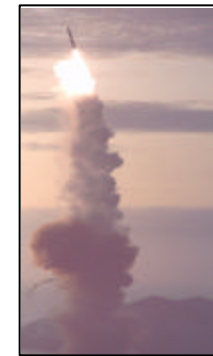
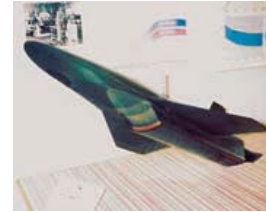
PGS and Deployed Forces

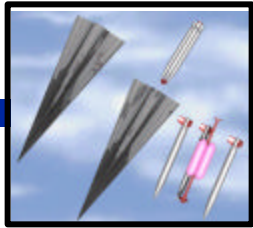
- **PGS would complement, not replace, deployed and deployable forces**
- **PGS adds a unique capability to power projection “toolkit” for national and theater commanders**
- **Limited strikes could be done by PGS alone**
- **In major campaigns, PGS strikes against C4I nodes, air defense systems, etc., would “open the door” for aircraft and eliminate anti-access threats (WMD, TBMs, etc.)**

PGS System Options



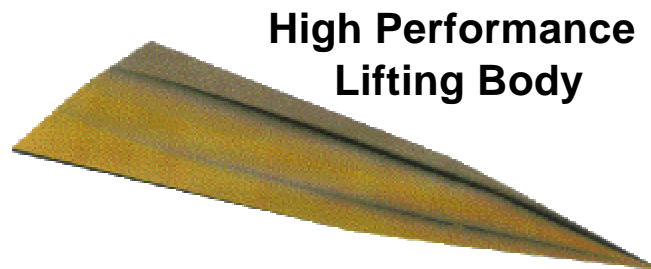
- Hypersonic Cruise Vehicle
- Ballistic Missile (based on ICBM or SLBM)
- Air-Launched Missile
- Space Operations Vehicle
- Space-Based Launch Platform





Front End Option- CAV

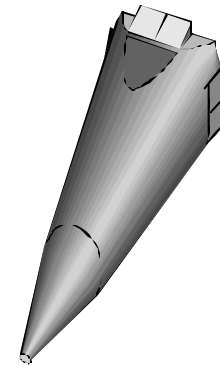
- Under AFSPC Development
- Maneuverable, guided vehicle launched from or through space
- Mass: Approx. 2000 lbs including payload
- Several possible configurations
- Could carry unitary penetrator, numerous smart weapons, even UAVs



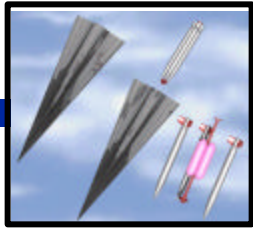
High Performance
Lifting Body



Unitary penetrator based on
Mk 11 RV aeroshell






Asymmetrical,
Bi-Conic
Lifting Body



Example of PGS Utility

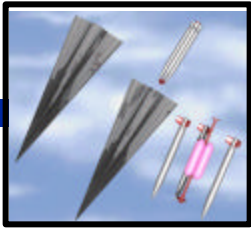
Operation El Dorado Canyon (Libya, 1986)

| Force Element | No./Type Aircraft | CAV Attack | |
|---|---|---|---|
| Attack  | 24 F-111 (1 lost) 14 A-6E | 2 CAV w/WAASM or SSB 2 CAV w/WASSAM or SSB | |
| Force Protection, SEAD Support  | 6 F-18, 6 A-7 28 Tanker, 5 EF-111, 4 E-2C, 1 EA-6 | Not Required |  |
| Total Force Required | 110+ Aircraft | 4 sorties | 4 CAVs |
| Capital Cost (aircraft only) | \$5.05B | \$32M (CBM) | |
| Operation Cost | \$99.1M | \$32M (CBM) | |
| People risked (attack plane crews) | 64 | 0 | |
| Overflight issues | Serious | Minor | |
| Weather limitations | Serious | None | |

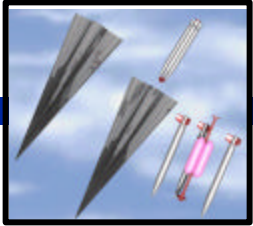
Notes:

- **Attack aircraft numbers include airborne spares. Capital costs do not include Navy ships or AF air bases.**
- **Of 5 ground targets, 4 were objectives: Benina airfield was struck to protect US aircraft.**
- **All Libya targets were suitable for WAASM (no hard/deeply buried).**
- **“Serious” weather limitations means bad weather would have impacted strike. In this case, it did not.**

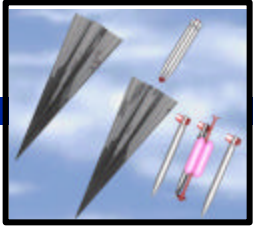
Summary



- **PGS is endorsed in AF, Navy, USSPACE, and DoD visions, plans, and requirements documents**
- **PGS complements deployed forces by taking on rapid-strike missions, paving the way for other forces**
- **PGS is technologically feasible**
- **No reason NOT to pursue**



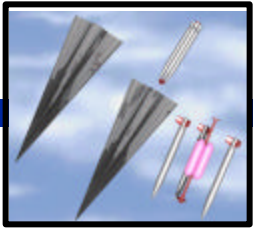
BACKUP SLIDES



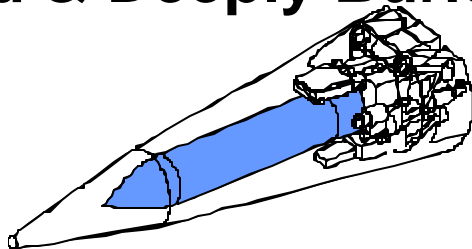
Treaty Clarifications

- **Space-launched PGS would not violate Outer Space Treaty**
 - **Does not carry Weapons of Mass Destruction**
- **Conventional Ballistic Missile legal if counted as ICBM under START**
- **Air-Launched missiles (ballistic or cruise) legal if missile or payload uses aerodynamic lift over some portion of trajectory**
- **Conventional SLBM not prohibited, some problems with verification**

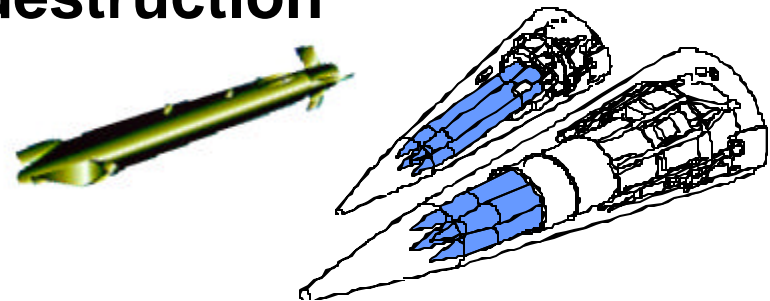
Potential CAV Payloads



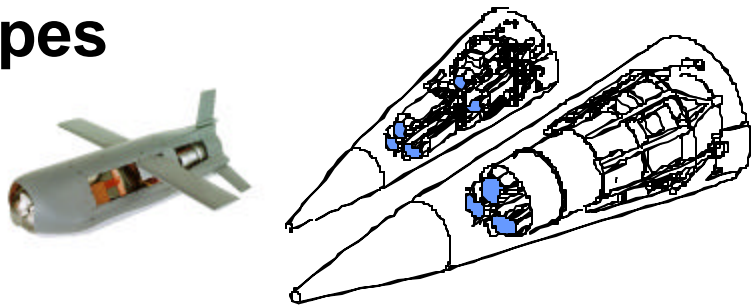
- **(One) Rigid Penetrator for Hard & Deeply Buried Targets**



- **(Four) Small Smart Bomb System for facility destruction**



- **(Six) Wide Area Autonomous Search Munitions (WAASM) for terrestrial targets of all types**



- **(Six) Unmanned Aerial Vehicle (UAV) for intelligence gathering, BDA**

