

# **REQUIREMENTS FOR A CONVENTIONAL PROMPT GLOBAL STRIKE CAPABILITY**

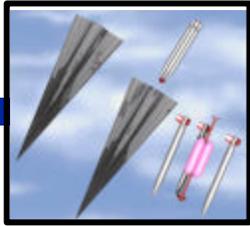
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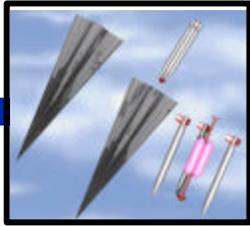


## *What is Prompt Global Strike (PGS)?*

- **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.”**

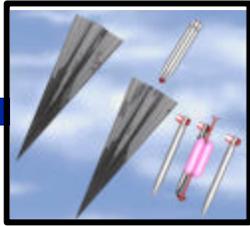


## *Why PGS?*

- **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."**

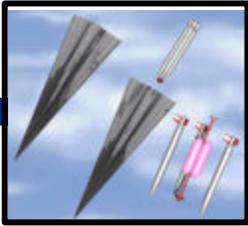


## *PGS Response Time*

- **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**



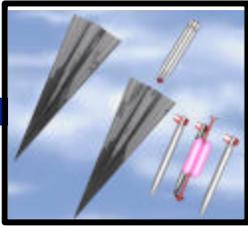
## *Limits on Current Solutions*



- **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.***



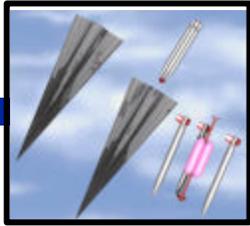
## *Anti-Access Threats*

- **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**



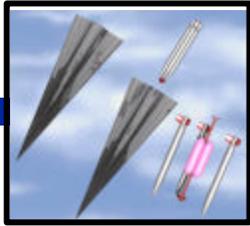
USS Cole,  
October 2000

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



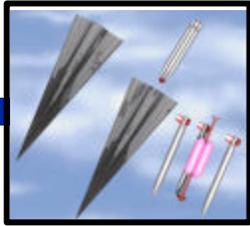
## *Formal Requirements*

- **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*

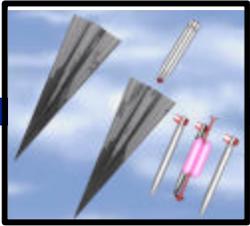
- ***USSPACECOM Long Range Plan*** required “On-Demand Force Application” delivering precision weapons “anywhere in the world within 90 minutes of launch”
- **1997 National Defense Panel Report:** need “conventional, non-nuclear deterrent capability against use of WMD”
- **Similar Requirements in:**
  - *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*



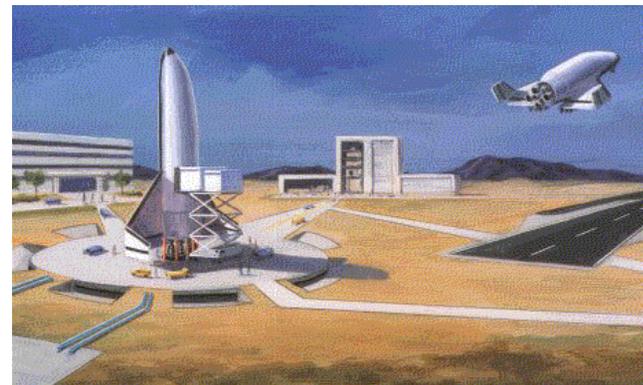
## *PGS and Deployed Forces*

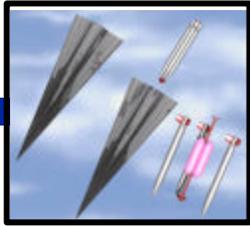
- **PGS would complement, not replace, deployed and deployable forces**
- **PGS adds a unique capability to power projection “toolkit” for national and theater commanders**
- **Limited strikes could be done by PGS alone**
- **In major campaigns, PGS strikes against C4I nodes, air defense systems, etc., 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*

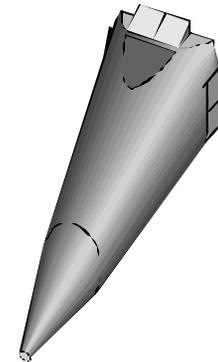
- **Under AFSPC Development**
- **Maneuverable, guided vehicle launched from or through space**
- **Mass: Approx. 2000 lbs including payload**
- **Several possible configurations**
- **Could carry unitary penetrator, numerous smart weapons, even UAVs**



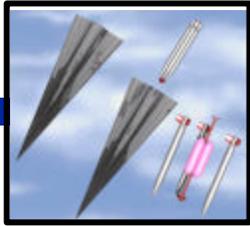
**High Performance  
Lifting Body**



**Unitary penetrator based on  
Mk 11 RV aeroshell**



**Asymmetrical,  
Bi-Conic  
Lifting Body**



# Example of PGS Utility

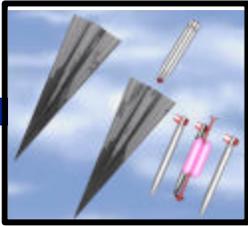
## Operation El Dorado Canyon (Libya, 1986)

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	

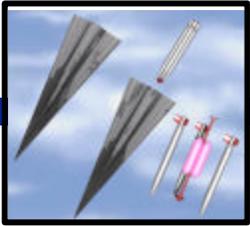
### Notes:

- 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.

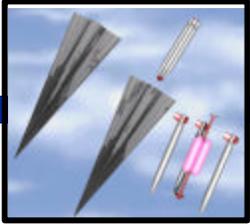
# *Summary*



- **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**



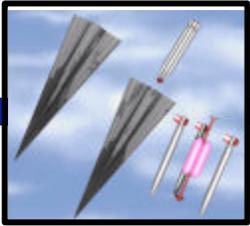
# BACKUP SLIDES



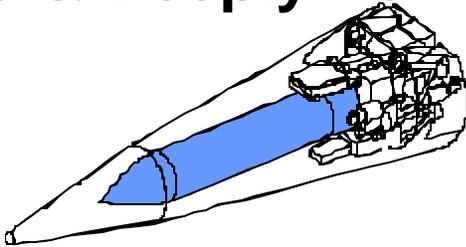
## *Treaty Clarifications*

- **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**

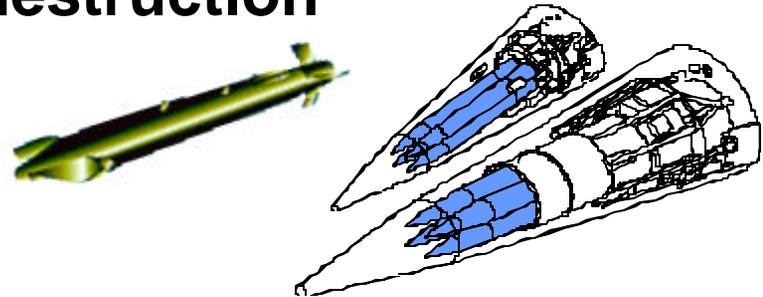
# Potential CAV Payloads



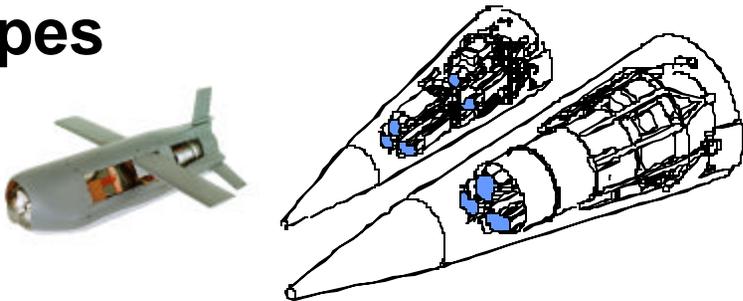
- **(One) Rigid Penetrator for Hard & Deeply Buried Targets**



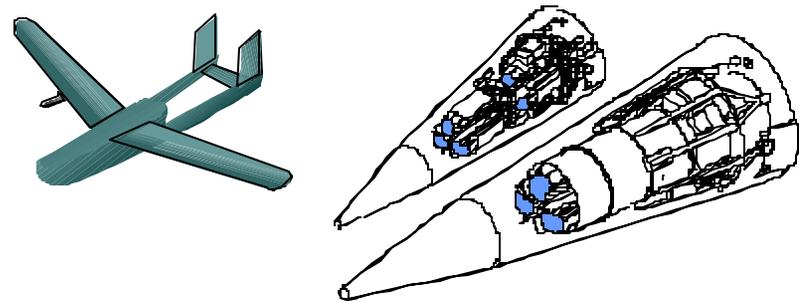
- **(Four) Small Smart Bomb System for facility destruction**

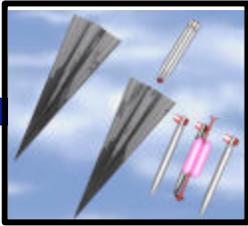


- **(Six) Wide Area Autonomous Search Munitions (WAASM) for terrestrial targets of all types**

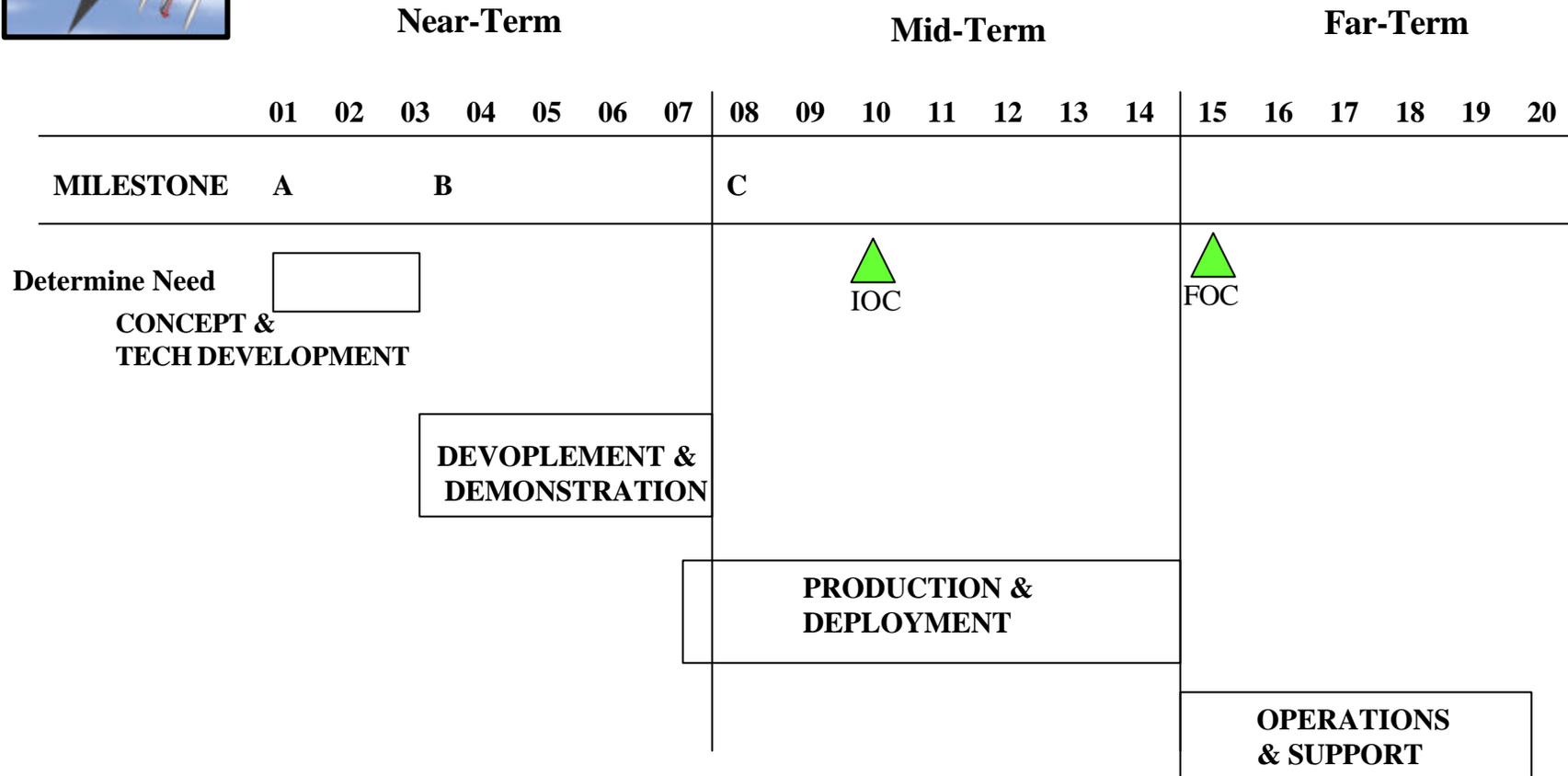


- **(Six) Unmanned Aerial Vehicle (UAV) for intelligence gathering, BDA**





# CAV MILESTONE CHART



Unofficial ROM cost estimates: \$800M - \$1.3 B depending on launch option, schedule, production numbers, etc. (70-100 CAVs)