

# Space Policy Issues

## - Space Strategies -

14 June, 2010

# Space Strategy Sequence

- ① **Deter (Pre-Conflict)**
- ② **Persuade**
- ③ **Confuse**
- ④ **Deter (Trans-Conflict)**
- ⑤ **Protect**
- ⑥ **Deny Space Force Enhancement**
- ⑦ **Deny Space Support**
- ⑧ **Destroy Space Infrastructure**
- ⑨ **Space-Supported Reconstruction**

# Space Strategy Sequence (1)

## ① Deter (Pre-Conflict)

### ➤ Overt Weapon

- ★ Demonstrated Capability

- ★ Can Be Secretly Linked To Covert

### ➤ Space Treaty Allows

- ★ Embargo Gray Country Space Support

  - \* Jam

  - \* Blind

- ★ Destruction of Threatening Space Systems

### ➤ Saber Rattling

### ➤ Space Mutual Defense Alliances

# Space Strategy Sequence (2)

## ② Persuade

- **Diplomatic Request**
- **Economic Action**
- **Legal Action**
- **Administrative Action**
  - ★ **Turn-Off Own Systems**

# Space Strategy Sequence (3a)

## ③ Confuse

### ➤ Hide

#### ★ Passive

\* Camouflage

\* Cease Activities When Sensor Is Overhead

\* Move Out of the Way of Sensor

#### ★ Active

\* Jam

\* Blind

# Space Strategy Sequence (3b)

## ③ Confuse (Continued)

### ➤ Change Adversary Confidence

#### ★ Covertly Disrupt Space Systems

- \* Adversary Can't Trust the Reliability Or Validity of His Space Systems

### ➤ Change Adversary Perceptions

#### ★ Make Blue Side Look Bigger Than They Are

- \* Fake Forces
- \* Blind Sensors Where No Forces Exist

#### ★ Make Red Side Look Smaller Than They Are

- \* Adversary Can't Determine Location & Status of His Own Forces
- \* Convince Adversary Future Space or Terrestrial Weather Is Not Favorable for Attack

# Space Strategy Sequence (4a)

## ④ Deter (Trans-Conflict)

### ➤ Linked Attack

★ Declare That Use of Gray/Red Space Assets Will Precipitate Attack On Terrestrial Systems

### ➤ Demo Attack

★ Destroy Derelict Space System To Show Real Space Control Capability & Willingness To Use It

\* Covert Space Control Capability Can Actually Be Used To Cover for Weak Overt Capability

# Space Strategy Sequence (4b)

## ④ Deter (Trans-Conflict, Continued)

### ➤ Alternate Country Attack

★ Destroying Red Space Systems Deters Gray From Supporting Red

### ➤ Covert Attack

★ Red/Gray Space Systems Temporarily Stop Working, Even Though Blue Does Not Admit Attack, The Message Is Clear



# Space Strategy Sequence (5)

## ⑤ Protect

### ➤ Passive

★ Harden

★ Maneuver

★ Hide

### ➤ Active

★ Deny Adversary Space Control Capability

✳ Deny Terrestrial Space Control Capability

✳ Deny Space-Based Space Control Capability

# Space Strategy Sequence (6)

## ⑥ Deny Space Force Enhancement

- Deny Imagery Info
- Deny Weather Info
- Deny Navigation Info
- Deny Missile Warning Info
  - ★ If Within Rules of Engagement
- Deny Communications

# Space Strategy Sequence (7)

## ⑦ Deny Space Support

### ➤ Deny Access To and From Space

★ Deny Space Launch

★ Deny Space De-Orbit/Retrieval

✳ Space Planes

✳ Film Capsule Return

✳ Hijacked Satellite Parts

✳ Astronaut Return

# Space Strategy Sequence (8a)

## ⑧ Destroy Space Infrastructure

➤ **Set Back Adversary Space Capabilities For Years To Come (Watch Out For Poisonous Materials)**

★ **Large Earth Terminals & Antennas**

★ **Launch Pads & Space Plane Airfields**

★ **Space Production Facilities**

✳ **Rocket Fuel Production**

✳ **Satellite Construction**

✳ **Missile Construction**

★ **Space Design Facilities & Personnel**

# Space Strategy Sequence (8b)

## ⑧ Destroy Space Infrastructure (Continued)

### ➤ Critical Utilities Leading to Space Facilities

- \* Electrical Transmission Towers

- \* Pipelines

- \* Roads, Bridges, Tunnels & Passes

# Space Strategy Sequence (9)

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## ⑨ Space-Supported Reconstruction

- **Employ Space Assets for Allied/Red Post-Conflict Rebuilding**
- **Clean Up Space Debris?**

# Space Control Tempo (1)

- ① **Determine Most Vulnerable Blue/Gray Assets**
  - **Protect These**
    - **Satellites**
    - **Satellite Control/Receiver Sites**
    - **Satellite Tracking Sites**
    - **Space Weapons**
    - **Terrestrial Non-Space Linked To Space Assets**
      - ★ **Communications**
      - ★ **Command**

# Space Control Tempo (2)

## ② Determine Most Threatening Red/Gray Assets

- Satellites
- Satellite Control/Receiver Sites
- Satellite Tracking Sites
- Space Weapons
- Terrestrial Non-Space Linked To Space Assets
  - ✦ Communications
  - ✦ Command



# Space Control Tempo (3)

## ③ Deter Red & Gray Use of Space Assets

### ➤ Space Escalation Ladder Control

- ★ Pre-Conflict

- ★ Trans-Conflict

### ➤ Blue May Not Want to Escalate Space War All the Way

- ★ Blue May Have More Space Assets to Lose Than Red

- ★ Blue May Force Red to Use Gray Space Assets, Which Blue May Be Self-Deterred From Attacking

- ★ Blue May Be Monitoring Red/Gray Space Assets for INTEL

# Space Control Tempo (4)

- ④ **Fix Space Assets Into Quiescent State Until Satellite Killers Are In Theater, On-Line, Targets Are Within Range & Employment Authorized**
  - **Satellites Cannot Get New Tasking, Re-Configure Into War Reserve Modes, Or Maneuver to Orbits Advantageous on Battlefield**
    - ✦ **Confuse/Deny TT&C and Tasking of Satellites**
    - ✦ **Confuse/Deny Data Down-Linked From Satellites**
    - ✦ **Confuse/Deny Command Centers Requesting Satellite Info**
    - ✦ **Confuse/Deny Communications Between Command Centers & Space Centers**

# Space Control Tempo (5)

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- ⑤ **Employ Degrade/Destroy Space Control Weapons Where Authorized (ROE)**

# Space Strategies (1)

**Title:**

*Sweep The Skies*

**Action:**

Destroy all Red satellites whether military, civil, or commercial, in a synchronized simultaneous attack so that Red protective/reconstitution measures cannot be implemented in time.

**Desired Effect:**

One large synchronized blow keeps red off balance.

# Space Strategies (2)

**Title:**

*Sweep The Ground*

**Action:**

Destroy all prime Red space-related ground targets with a minimum of collateral damage.

**Desired Effect:**

With all ground sites destroyed, satellites cannot be tasked or download data. Probably a more politically acceptable solution, but space-related ground sites can be replaced easier than satellites after the war, and data from Gray satellite systems can still be downloaded outside of Red country and transmitted into theater.

# Space Strategies (3)

**Title:**

*Periodic Degrade*

**Action:**

Use degrade type of weapons whose attack cycles are timed to correspond with the reconstitution or replacement time of that target's capability.

**Desired Effect:**

As Red starts to bring on-line an alternate space capability, it is negated. This minimizes space weapons employment, but does not have as much shock value as a *Sweep The Skies* attack.

# Space Strategies (4)

**Title:**

*Rolling Disrupt*

**Action:**

Temporarily disrupt Gray space assets for small lengths of time, then move on to other Gray assets. Use low probability of detection and attribution weapons. This will give the impression of reliability issues with Gray equipment, not intentional attack, and decrease confidence in Gray systems, while also making Gray countries suspicious of Blue willingness to disrupt, but they would not be able to absolutely prove this. This may also confuse Gray countries as to Blue strategies and intent for that Gray country, and deter their support for Red side.

**Desired Effect:**

Keep Gray side guessing as to the ultimate fate of their space systems if they continue to support Red side.

# Space Strategies (5)

**Title:**

*Herd COMM*

**Action:**

Selectively destroy or temporarily disrupt specific Red space systems communications assets so that critical Red sensor and C4 info gets directed to known paths that can be monitored by Blue sensors.

**Desired Effect:**

Make Red more vulnerable to intelligence exploitation.



# Space Strategies (6)

**Title:**

*Funnel COMM*

**Action:**

Selectively disrupt select Red space systems communications assets so that critical Red sensor and C4 info gets directed to communications paths with low data rates, effectively delaying receipt of critical data beyond its useful life.

**Desired Effect:**

Delay receipt of critical info while conserving space control weapons employment.

# Space Strategies (7)

**Title:**

*Herd Space Personnel*

**Action:**

Destroy all Red space-related ground targets, except purposely lightly damage one ground center. Assume that key space support personnel will converge to this lightly damaged site to conduct repairs. 12 hours later, use anti-personnel weapons at this site, with destroy weapons 2 hours later.

**Desired Effect:**

Destroys Red country's most import space asset: key technically trained space personnel. Also sends message to international community that foreign personnel supporting Red space efforts will be at risk.

# Space Strategies (8)

**Title:**

*Herd Sensors*

**Action:**

Temporarily deny Red space sensors, or only certain sensors. This will blind them, until they are allowed to use them again when Blue side wants them to observe certain fake Blue force dispositions. This directs Red sensors to see only what Blue side wants them to see.

**Desired Effect:**

Control Red perception of Blue strengths and battlefield situation.

# Space Strategies (9)

**Title:**

*Hidden Disrupt*

**Action:**

Employ weapons with low probability of detection and attribution, to minimize world reaction to Blue side counter space. Temporarily disrupt spacecraft operations at random times.

**Desired Effect:**

Red side loses confidence in his space systems. He is constantly kept off-balance by repeated disruption of his space capabilities – timed within his decision cycle times. Political implications of space control need not be addressed.

# Space Strategies (10)

**Title:**

*Hidden Negate*

**Action:**

Employ weapons with low probability of detection and attribution, to minimize Red perception that Blue has begun counter space operations. Slowly increase tempo of Red satellite disruption, starting with minor anomalies easily attributable to natural causes, and building up to major problems. This will make the Red side lose confidence in the operation and data associated with this space system, and will make it less suspicious when the satellite system is finally negated.

**Desired Effect:**

Red probably hasn't used space systems in a real conflict before, and their decreasing reliability under combat stress might be understandable and acceptable to them.

# Other Space Strategies (1)

- **Blind Blue capabilities to observe the terrestrial battlefield**
- **Blind Blue capabilities to support the terrestrial battlefield**
- **Blind Blue capabilities to observe space from terrestrial sensors**
- **Blind Blue capabilities to observe space from space-based sensors**
- **Spoof Blue capabilities to observe the battlefield**
- **Spoof Blue capabilities to support the battlefield**
- **Deny Blue ability to launch new satellites**
- **Destroy some Blue space capability as a warning to Gray space systems support to Blue**
- **Wear down Blue Defensive Counter-Space capabilities by instigating multiple false alarm attacks**
- **Attack Blue satellites before the start of the terrestrial conflict**
- **Spoof Blue perceptions of Red space strengths**
- **Conduct surprise attacks on Blue space systems**

# Other Space Strategies (2)

- **Conduct diplomatic offensive to restrict Blue ability to employ ASAT's**
- **Actively defend key launch corridors and orbits critical to Red conduct of war**
- **Mass Red ASAT forces against high value Blue targets**
- **Preposition Red space assets to maximize their effectiveness at the start of the conflict**
- **Red exploits Blue space systems to Red advantage**
- **Disrupt Blue command and control capabilities for space systems**
- **Embargo Blue access to space systems**
- **Prevent Blue ability to service or re-fuel on-orbit satellites**
- **Develop propaganda campaign against Blue use of ASAT's**
- **Shape and delay Blue plans for space warfare**
- **Deny Blue ability to achieve Space Situational Awareness**
- **Deny Blue ability to use commercial and Gray space assets**

# Other Space Strategies (3)

- **Destroy Blue space infrastructure to have a long term impact on Blue space capabilities even after the war's end**
- **Disrupt Blue space attacks so they become uncoordinated**
- **Constantly shift points of application of space control weapons to confuse adversary response**
- **Cut off Blue access to satellites**
- **Herd Blue space communications paths to those that are more easily monitored by Red SIGINT assets**
- **Attack key Blue space personnel and technicians**
- **Allocate space defenses according to priority of space system defended**
- **Does Red conduct an active (attack ASAT's) or passive defense (satellite hardening)**



# Other Space Strategies (4)

- **Does Red conduct ASAT attacks over home territory**
- **What is Red attack priority timelines: terrestrial space systems or satellites first**
- **Disperse Red assets (maneuver satellites) just before launching first attack**
- **All-out first attack or gradual escalation of space attacks**
- **Is the strategy dependent upon a perception of the relative capability of the threat, for example, would Red do something different if the attacker were perceived to be stronger?**
- **Attach new ASAT to old space object that has been dead for a long time (1960's debris?). Maneuver this new "shield" along with your new ASAT. Drift with this debris, maybe making slight maneuvers until needed to attack with a major, final maneuver.**