



PLANNING CONSIDERATIONS

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Counterspace planning may be conducted at every echelon of command and across the range of military operations. Counterspace planning should take into account the capabilities of all the Services, joint force components, and interagency, multinational and commercial partners. During all aspects and phases of planning counterspace operations, the Commander, United States Space Command (CDRUSSPACECOM) and the [combined force space component commander](#) (CFSCC) should coordinate with theater joint force commanders (JFCs) and [joint force air component commanders](#) (JFACCs), in accordance with established [support relationships](#).

Counterspace planning is conducted using the joint planning process. For details on this process, see AFDP 3-0, [Operations and Planning](#), and Joint Publication 3-30, [Command and Control of Joint Air Operations](#).

During [joint intelligence preparation of the operational environment](#) (JIPOE), planners should assess adversary reliance on space capabilities and the joint force's ability to negate those capabilities. Planners should pay particular attention to active and passive counterspace capabilities, as well as the commander's intent and ability to contest control of space with those capabilities. This assessment should inform the CDRUSSPACECOM and the CFSCC, in coordination with the theater JFCs and JFACCs, as necessary. The output from JIPOE will inform decision-making efforts during mission analysis and course of action development.

The CFSCC plans for simultaneous support to all theaters and to meet global space requirements through the [Combined Space Operations Center](#) (CSPOC). The CFSCC's first priority is to define—in both time and space—the level of control of space needed to achieve CDRUSSPACECOM's objectives. Once defined, the CFSCC should identify the actions required to reach the desired level of control. This determination will drive the priorities for CFSC planners. The CFSCC must advise CDRUSSPACECOM on what level of control is realistic given current capabilities and allocation of assets.

Counterspace planners must consider that satellites are constantly changing position and that on-board resources (e.g., fuel and batteries) and performance fluctuate over time. Therefore, these assets must be monitored and reassessed at the beginning of each phase of planning and again prior to execution to ensure the status is current.

Offensive Counterspace

Offensive counterspace (OCS) may be the highest-payoff space component mission when the enemy has the capability to threaten friendly forces, or provide significant support to adversary terrestrial forces, with space capabilities. Given finite resources, in all domains, the CFSCC should judiciously plan the allocation of forces and capabilities to meet CDRUSSPACECOM's and the supported Commanders' objectives. Successful OCS may result in greater freedom *from* attack, by negating enemy counterspace capabilities before they are used against friendly forces, enabling increased freedom of action. This, in turn, may free up assets for other operations against the enemy. Successful OCS also results in the ability to mitigate the adversary's use of space capabilities to support their fielded forces in all domains. In other words, the initial investment in OCS operations contributing to the achievement of the desired level of control of space may pay significant dividends toward overall mission accomplishment. Determining which enemy capabilities to target and the level of negation required is fundamental to successful OCS operations. For instance, it may not be necessary to completely destroy or degrade a given capability, but only temporarily disrupt or deny it in order to achieve desired effects. The latter may require less effort, thereby freeing up assets for other missions. This type of analysis varies from one operation to another, but results in an effective set of target priorities and more efficient use of assets to achieve desired effects.

The nature of airpower is such that offensive combat power can frequently be "massed" by distributing forces. There are no natural lateral boundaries to prevent air, space, and cyberspace capabilities from quickly concentrating their power (physically or in terms of delivered effects) at any point, even when starting from widely dispersed locations. From an Airman's perspective, mass is not based solely on the quantity of forces and materiel committed. In fact, airpower achieves mass most often through effectiveness of attack, not overwhelming numbers.

The most effective OCS efforts may be achieved as part of a broader, parallel attack on the adversary as a system-of-systems with all available assets, to include multi-domain capabilities. For instance, attacking electrical power and isolating national military leadership may aid the operation's overall OCS effort while also helping achieve other objectives. However, as with other operations, care must be taken not to dilute the OCS effort to the point where it is ineffective. The appropriate concentration of effort will ensure that direct effects are balanced with indirect effects that degrade the adversary system-of-systems and warfighting effectiveness over time. If the OCS effort is spread too thin, the CFSCC may lose the advantage of mass and risk losing the initiative and the benefits of airpower's offensive nature. When considering available assets, it is important to give full consideration to the assets and capabilities of other USSPACECOM and applicable theater components.

Planners must determine adversary capabilities and expect at a minimum that adversaries will use at least rudimentary active and passive defenses to protect their space, link, and ground segments. In all cases, planners should develop plans to negate the effectiveness of these defenses, in order to create a permissive environment at desired places and times. The following considerations are important considerations for counterspace (OCS and active defensive counterspace [DCS]) planning:

- ✪ **Threat.** The threat posed by specific enemy capabilities includes an assessment of the urgency or the need to negate that threat.

- ★ **Direct Effects.** First-order results of actions with no intervening effects between action and outcome. These are usually immediate and readily recognizable (e.g., weapon employment results). These are important in determining whether friendly tasks were accomplished. Planning for them must also consider such factors as the potential for collateral damage and rules of engagement restrictions.
- ★ **Indirect Effects.** Second-, third-, or higher-order effects created through intermediate effects or causal linkages following causal actions. These may be physical, psychological, functional, or systemic in nature. They may be created in a cumulative, cascading, sequential, or parallel manner. They are often delayed and typically are more difficult to recognize and assess than direct effects. Understanding these and the causal linkages between them may be vital for achieving objectives.
- ★ **Forces Available.** The forces available are assessed against the number, types, and priority of targets that can be attacked. Sufficient and capable forces should be provided to ensure the desired results are obtained.
- ★ **Time Available and Time Required.** Time constraints are integral to prioritization and planning. The time allowed to achieve the direct and indirect effects as well as the required duration of those effects will influence the number and type of forces needed. Counterspace operations may require substantial lead-time for approval due to political sensitivity or the involvement of or impact to non-Department of Defense organizations.
- ★ **Risk.** Risk calculation involves weighing the risk to friendly forces against expected gains from target attack. Risk calculation should also consider the risks entailed in *not* taking planned actions and the risk of unintended collateral effects. Different objectives and circumstances drive different acceptable levels of risk.
- ★ **Measures and Indicators.** These are the essential component parts of assessment; the means of evaluating progress toward creating effects and achieving objectives. They should be determined during planning.
- ★ **Phasing.** Phasing may be used to modify the prioritization of limited space capabilities to theater operations. Space operations often occur simultaneously and can be continuous throughout the OPLAN, sometimes leading to a sense that phasing is less relevant to space operations. Phasing remains a useful tool to communicate the JFC's concept of operations and the shifting of emphasis between ongoing space operations. For instance, counterspace operations may be emphasized early in an operation and be de-emphasized once space superiority is firmly established. The desired level of space superiority is likely to be a prerequisite to effective pursuit of other objectives.

To the greatest extent practicable, systems and methods should be employed that minimize risk to friendly forces, civilians, and civilian property. For example, an aircraft employing standoff weapons may provide the same effect as a special operations team, with less risk to friendly forces, however, it may increase the chance of collateral damage. In all cases, planners should consider the use of multi-domain capabilities to conduct counterspace operations.

The CSPOC, as the lead integrator, coordinates with the [National Space Defense Center](#) and

theater [air operations centers](#), as applicable, to plan counterspace operations. In early stages of planning, the CFSCC, in coordination with JFACCs, as applicable, will determine objectives, desired effects, and relative priorities. Planners will determine enemy systems, capabilities, and assets that can be used to contest the control of space. Planners will then match desired effects to targets and match targets with friendly forces to create tactical tasks. Planners should develop a prioritized target list before hostilities begin, continually updating it once the battle rhythm is established based on current intelligence and progress of the operation. Planners should also build procedures to handle higher priority re-taskings, such as diversions to strike time-sensitive targets (TSTs). Planners must be able to re-task counterspace missions rapidly in order to take appropriate action against TSTs and similar fleeting, emerging, or higher-priority counterspace targets.

The following considerations are important for determining counterspace (OCS and DCS) targeting priorities and methods:

- ★ **Find, Fix, and Track.** The ability to find, fix, and track space objects, signals, and terrestrial nodes is a fundamental pre-requisite to attacking the adversary, defending friendly space capabilities, assessing collateral effects on third party space assets, and understanding the operational environment. Radar and optical sensors find, fix, and track objects in space just as other sensors find, fix, and track airborne objects within an area of interest.
- ★ **Target Characterization.** Characterization provides the understanding of how systems operate, the signals used, the environment, how systems react to changes in conditions, and the threats posed to friendly and adversary operations. Characterization data enhances our ability to target a space capability, often providing greater flexibility to achieve the desired effect. If we understand how a space system works, the decision and trade-offs on how best to affect the target will be enhanced.
- ★ **Integration.** Integration of theater space requirements must consider both a global and theater perspective. Global integration is the responsibility of CDRUSSPACECOM. Theater integration requires close coordination with the applicable theater JFCs and JFACCs.
- ★ **Phase of Conflict.** Counterspace operations occur in every phase of conflict. However, priorities and [rules of engagement](#) (ROE) may vary greatly from one phase to the next and should be carefully considered.
- ★ **Rules of Engagement.** ROE (and related special instructions found in tasking orders, as well as rules for use of force, often used in situations such as homeland defense and civil support missions) may critically affect how missions are performed. All levels, from the CFSCC / JFACC down to individual crews, should understand the ROE that apply to the accomplishment of their missions.
- ★ **Weaponeering.** Assigning the correct weapons and platforms to target sets is critical to achieve the desired effects. Accurate weaponeering increases the chances of achieving desired effects.
- ★ **Deconfliction.** Electromagnetic spectrum and physical deconfliction must be undertaken to avoid “blue-on-blue” impacts and unintentional interference with third party space capabilities.

- ✦ **Environmental Conditions.** The significance of terrestrial and space environmental conditions on satellites and their communications links cannot be overstated. Weather can also limit sensor sensitivity and ultimately limit the planner's weapons and munitions selection. Planners should address the need for sufficient space situational awareness and counterspace assets to offset the loss of capability and desired effects due to environmental factors.

Defensive Counterspace

DCS operations protect friendly space capabilities from attack, interference, and unintentional hazards, in order to preserve the US and friendly ability to exploit space for military advantage. Effective OCS, prior to the threat coming to bear, may reduce the DCS requirement, freeing assets for more offensive operations, but some degree of DCS is normally necessary in every phase of every operation. DCS operations defend friendly lines of communication, restrict the ability of the enemy to carry out offensive attacks in all domains against friendly space forces and assets, and provide access to space capabilities for all elements of the joint force.

Just as in OCS operations, DCS planners prioritize which assets and capabilities to defend. Planners at all levels identify enemy targets and capabilities to defend against, while matching available forces against the threat. They use many of the same OCS planning considerations. Planners determine which mission-critical assets and capabilities to protect, which will vary from operation to operation. DCS operations are conducted in conjunction with or independent of OCS operations and generally fall into one of two categories: active or passive defense.

Active Space Defense. Active space defense consists of direct actions taken to negate or mitigate the effectiveness of threats against friendly space forces, assets, and capabilities through direct action. Active space defense operations are conducted using a mix of weapon and sensor systems, supported by secure and highly responsive C2 systems, to find, fix, track, target, and destroy or reduce the effectiveness of space threats. Upon a determination of a hostile act or demonstrated hostile intent, DCS operations authorized by an appropriate authority may take action in self-defense, including the use of force.

Integrated employment of multi-domain capabilities through coordinated detection, identification, engagement, and assessment of enemy forces is necessary to defeat enemy attacks and protect friendly forces. The efficient execution of space defense operations requires the ability to quickly detect, identify, target, track, and attack potential threats. Rapid, reliable, and secure means of detection and attribution are critical to an effective defense against enemy attacks. Agile intelligence, surveillance, and reconnaissance capability is essential to provide continuous surveillance and reporting of real-time and near-real-time target data. DCS engagements require careful deconfliction between blue, gray, and red assets and capabilities.

Near-real-time surveillance and threat analysis depends on the ability to fuse all-source multi-domain sensor data into an accurate theater attack assessment. As a threat is detected, it is identified and labeled; this information is then disseminated as rapidly as possible. The threat data provided should be sufficiently detailed and timely to permit the C2 system to evaluate the threat, determine the significance of the threat, and identify required defensive capabilities.

Active defenses include adjustments to the nodes and links of space systems, such as a satellite maneuver or frequency change, and the use of conventional or special operations forces to suppress enemy attacks. The key to effective employment of active measures is early detection and characterization of the threat in order to determine the most effective countermeasure. These actions are described in more detail in [Execution Considerations](#).

Passive Space Defense. Unlike active space defense measures, passive space defense does not involve the direct action in response to adversary, unintentional, or environmental threats. Passive defenses enhance the survivability of space systems by providing a layered defense to ensure space systems continue to operate both during and after attack. Passive measures include the use of camouflage, concealment, and deception; hardening of systems; and cybersecurity. Known survivability measures may even deter an adversary from attempting to attack our space systems. These measures are described in more detail in [Execution Considerations](#).
