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FOR DOCTRINE DEVELOPMENT AND EDUCATION



ANNEX 3-60 TARGETING

TARGET DEVELOPMENT

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Purpose of the Target Development Phase. This is the phase in which the efforts of deliberate targeting relate specific targets to objectives, desired effects, and accompanying actions. Targeteers within the ISRD and the CPD TET take the effects determined during the objectives, effects, and guidance phase and analyze which targets should be struck (or otherwise affected) to accomplish them. Target development requires thorough examination of the adversary as a system of systems in order to understand where critical linkages and vulnerabilities lie. Critical elements are those a system requires in order to enable enemy capabilities and/or actions which are the focus of the commander's objectives and thus the source of the desired [direct](#) and [cascading effects](#) on the system. Critical linkages within a system often enable the functioning of several interrelated parts of the system, and so affecting them in the right way can disable several components, or even cause cascading system-wide failure. Vulnerable targets are those that can be attacked or otherwise affected. Thorough analysis should identify [critical vulnerabilities](#), if they exist. These are elements of the adversary's system that are both critical and vulnerable. Analysis is made effective through access to the community of subject matter expertise and information regarding the functioning of systems that support adversary capabilities. This research may require expertise beyond that normally available on the COMAFFOR's planning staff. In such cases, [reachback](#)/federation entities may fill COMAFFOR staff shortfalls. It requires cooperation with other planning staffs and national [interagency](#) groups throughout the process. Target development involves five distinct functions, each discussed below:

- ✦ Target analysis.
- ✦ Target vetting.
- ✦ Target validation.
- ✦ Target nomination.
- ✦ Identification of intelligence gaps, collection and exploitation requirements.

The purpose of these together is to relate target development to tasking. The target nomination part of the process, the component [target nomination list](#) (TNL)

development, usually culminates in a target coordination meeting, held by the TET within the CPD (when the JFC delegates joint targeting coordination authority to the [joint force air component commander](#) (JFACC/COMAFFOR) with the assistance of the various joint components and multi-national liaison elements. The TET collates target nominations from all sources. It works with the ISR and other agencies to analyze targets. It screens all nominated targets to ensure they meet [commander's intent](#) and are relevant. It allocates and prioritizes the nominated targets based on the best potential to achieve desired effects and objectives and coordinates to ensure other components' priorities and timing requirements are met. The product of this effort, when approved by the JFC or designated representative, is the JIPTL.

Target development influences and ultimately leads to target nominations and development of the JIPTL, [joint target list](#) (JTL), [restricted target list](#) (RTL), and [no strike list](#) (NSL). In combination with each component TNL, the JIPTL is ultimately created. As noted, all the phases of the tasking process are intertwined. Target development efforts can frequently force refinement of desired effects or even objectives, especially if weaponeering and allocation efforts indicate that a particular targeting avenue of approach is impractical. Target development efforts also frequently reach forward to influence weaponeering and allocation choices, dynamic targeting during execution, and the assessment process. The results of detailed target development are often stored in target system studies, individual target folders and targeting databases that can be studied by all levels of command and used in future target development efforts. Additionally, when detailed targeting development data are not available (i.e., a non-Joint Strategic Capability Planning directed planning effort), targeting and planning staffs should leverage the intelligence community functional target systems studies, models and simulations, experts to support target development efforts.

Target analysis takes the desired effects determined during planning or the first phase of the tasking cycle and matches them to specific targets. This analysis looks at the importance of various potential targets as enablers of enemy capabilities, as critical elements within enemy systems, or as potential trigger points for desired enemy behavior changes. There are many means available to accomplish this through the application of capabilities across the spectrum of targeting (i.e., [influence operations](#), physical attack, [cyberspace](#) attack, etc.). Two of the most common that have been used in the past are target system and system of system analysis.

[Target system analysis](#) (TSA) approaches targets and target sets as systems to determine vulnerabilities and exploitable weaknesses. Targeteers review how a functional target system works as a whole and analyze the interactions between components. TSA takes a system-of-systems approach to look at interdependencies and vulnerabilities between systems as well as intra-system dependencies in order to maximize the effectiveness of target development. Ideally, TSA production begins in peacetime, before the commencement of conflict, and is accomplished with federated support and ["reachback."](#)

As part of a comprehensive system-of-systems analysis (SOSA) approach, TSA focuses on one or more of the many functional target systems identified by the Defense Intelligence Agency (DIA). These include infrastructure targets across an entire region

or nation (i.e., electrical power or petroleum, oil, and lubricants (POL) production), or non-infrastructure systems such as financial networks. SOSA seeks to find nodes common to more than one system, focusing on the interactions and interrelationships between system elements, in order to determine their degree and points of interdependence and to discern linkages between their functions. The ultimate goal of TSA is to find critical nodes and vulnerabilities that, if disrupted or affected in a specific manner, create effects that achieve the commander's objectives.

The analysis performed in target development proceeds through successively greater levels of detail, flowing from the macro (broad scope) level to the micro (narrowly focused) level. This winnowing approach is essential to preserve the linkage between desired effects and objectives and the specific actions that are taken against particular targets. It determines the necessary type, breadth, and duration of action that should be exerted on each target to generate effects that are consistent with the commander's objectives.

Targets for consideration come from a variety of sources. Many are developed pre-conflict and confirmed during planning. These may or may not come from a theater JTL maintained in peacetime. Many more are suggested during [joint air operations plan](#) (JAOP) development or by the SD as the air component's [strategy](#) evolve during a conflict. Many are derived by the AOC's targeteers themselves, as target analysis suggests the means of achieving desired effects.

Many targets are nominated by space and cyberspace support elements and other joint force components in the form of a TNL in order to achieve that component's desired effects. Upon dissemination of the AOD, and based on JFC guidance, components begin to develop their nominations for inclusion in the next ATO. Some targets may be suggested by government agencies outside the DOD or by foreign governments. The product of target analysis is a list of proposed target nominations designed to achieve the effects determined in earlier stages of planning (such as JAOP development or the objectives, effect, and guidance stage of the tasking cycle), which may then be validated. Other products may include creation of or additions to no-strike or restricted target lists (see "products of the phase," below).

Target research within the tasking cycle often entails studying previously unidentified or unlocated targets. Responsibility for the research lies primarily, but not solely, with the [targets and tactical assessment](#) (TGT/TA) team of the ISRD, which uses federated and [reachback](#) support to ensure that the AOC obtains, analyzes, and disseminates the information needed for further target development. Integration of full spectrum targeting capabilities is a critical part of identifying targeting opportunities and creating the appropriate lethal and nonlethal effects.

Determining the status of previously struck targets, enemy recovery and recuperation efforts, and changes in enemy tactics, processes, and strategy is a function of the TGT/TA team of the ISRD. This information is critical in validating the effectiveness of friendly action. It helps shape ongoing target development within the tasking cycle by showing where re-strikes or other further action may be required. It is also crucial to the SD's efforts to identify needed changes in the overall campaign strategy.

Target vetting assesses the accuracy of the supporting intelligence used to develop the target. Additionally, the vetting process results in the identification and documentation of collateral concerns associated with a specific target, as well as intelligence gain-loss concerns.

Target validation ensures all vetted targets are compliant with LOAC and ROE. Validation also ensures targets achieve the effects and objectives outlined in commander's guidance and are coordinated and de-conflicted with agencies and activities that might present a conflict with the proposed action. It also determines whether a target remains a viable element of the target system. During the development effort, the targets may also require review and approval based on the sensitive target approval and review process, coordinated through the combatant commander to national authorities. This phase is done by targeteers within the CPD TET, in consultation with the strategy plans team within the SD and other experts and agencies, as required. The first part of validation asks such questions as:

- ★ Does the target meet COMAFFOR or higher commanders' objectives, guidance, and intent?
- ★ Is the target consistent with LOAC and ROE?
- ★ Is the desired effect on the target consistent with the end state?
- ★ Is the target politically or culturally sensitive?
 - ★★ What may the effect of striking it be on public opinion (enemy, friendly, and neutral)?
- ★ What are the risks and likely consequences of collateral damage?
- ★ Is it feasible to attack this target? What is the risk?
- ★ Is it feasible to attack the target *at this time*?
- ★ What are the consequences of *not* attacking the target?
- ★ May attacking the target negatively affect friendly operations due to current or planned friendly exploitation of the target?

The second part of validation starts the coordination and integration of actions against the target with other operations. This continues after the ATO is produced and responsibility is assumed by the COD. Part of coordination is de-confliction. Many offices and agencies must be coordinated with to prevent fratricide, collateral damage, or propaganda leverage for the enemy. Some examples of where coordination and integration are required:

- ★ Special operations forces (SOF). The joint force special operations component commander (JFSOCC) must deconflict joint special operations with the JFC and the other component commanders to avoid fratricide. This is best done at a COMAFFOR targeting coordination meeting held as part of the TET's function. The

AOC should work through the [special operations liaison element](#) (SOLE) for deconfliction.

- ★ Land forces. AOC personnel should work through the BCD (and [Marine liaison element](#), when appropriate) and the [air support operations center](#) (ASOC) to ensure that air component targeting is coordinated and integrated with land component operations. Careful crafting and placement of [fire support coordination measures](#) (FSCM) facilitate this.
- ★ Maritime forces. AOC personnel maintain close liaison with the maritime component through the [naval and amphibious liaison element](#) (NALE) and provide air, space, and cyberspace support, as required.¹
- ★ [Search and rescue](#) (SAR). SAR personnel must deconflict with current targeting operations and other ongoing operations to ensure the safety of any SAR operations.
- ★ Space, cyberspace, and information operations. Space, cyberspace, and information operations should be cognizant of both intended and unintended effects created by the targeting process and ensure that these effects support the JFC's objectives and strategies.
- ★ Other government agencies. Targeting personnel should be aware of agency involvement and should work closely with the JFC's national intelligence support team (NIST).

Target Nomination. Once all of the components, allied, and agency target nominations for a given ATO are received, the TET prioritizes the nominated targets and places them in a TNL based on the commander's objectives. The TET then presents the TNLs through the appropriate coordinating bodies representing the joint force components and other required agencies to ensure their requirements are supported, joint force priorities are met, and desired effects are achieved.

If targeting functions are delegated appropriately, the final deconfliction and coordination of components' nominations should be at a target coordination meeting run by the TET. Component representatives should be prepared to justify target selections, since not all targets may be engaged based on the JFC's [apportionment](#) decision and the COMAFFOR's [allocation](#). If differences arise and cannot be resolved at the meeting, the issue should be coordinated at higher levels for resolution. The meeting should not generally address mating of specific weapons to targets, but it should consider all capabilities and initiate the planning and coordination needed for those options. Additionally, the meeting may address the availability of certain high demand weapons or munitions on a particular ATO. However, the availability of weapons or capability should not drive the nomination of targets—this is antithetical to an effects-based approach.

¹ JP 3-32, *Command and Control for Joint Maritime Operations*.

The result of coordination is the draft JIPTL, which is submitted to the JFC or designated representative for approval. Again, targets may be added to no-strike or restricted target lists as a result of this part of the process highlighting RTL targets (for possible approval) and sensitive target approval and review (STAR) targets.²

Identifying collection and exploitation requirements through assessment is critical to targeting efforts. This stage attempts to answer the question, “How may we know that we have achieved the desired effects?” by establishing intelligence collection and exploitation requirements for each nominated target. This stage begins with target analysis and runs parallel to the other stages. The requirements should be articulated early in the tasking process to support target development and ultimately assessment. Targeteers should work closely with collection managers to ensure that target development, pre-strike, and post-strike requirements are integrated into the collection plan, along with any changes that occur throughout the tasking cycle. This intelligence support is also required to prepare for future targeting during execution (e.g., to pre-task real time ISR assets) and to support post-strike assessment of success. It should be noted that first-order effects of nonlethal operations are often subtle; in various instances may be of short duration for enabling purposes only or require days to months for the effect(s) to resolve, if at all, and may have effects that relate to the broader context of the target system (e.g., only visible at the operational or strategic level). Further, assessment of second- and third-order effects can be even more difficult. For these reasons nonlethal pre- and post-strike collection requirements are critical for ensuring a cohesive means exists to assess the intended effects. The product of this stage may be a [joint integrated prioritized collection list](#) (JIPCL).

Target List Development. Various target lists are created for use by the JFC to ensure the accuracy of target intelligence and validity of deliberate targeting in relation to guidance and LOAC. These JFC managed lists include the JTL, RTL, and the NSL. The daily [joint integrated prioritized target list](#) (JIPTL), is created for use by the COMAFFOR to support the desired effects to be achieved on the corresponding ATO. Responsive and verifiable procedures should be in place for additions or deletions to any of the lists. However, commanders should be aware of the larger impact to effects based planning when individual targets are removed from the JIPTL or restrictions are applied. The removal or servicing restriction of one seemingly isolated target on a JIPTL may cause an entire target set grouping to become invalid thus requiring the identification of a different grouping of targets within the same or across one or more additional/alternate target sets to create the same effect.

Before a nomination becomes a target, it is a candidate target that is developed, vetted, and validated. The [candidate target list](#) (CTL) is a list of selected [target development nominations](#) (TDN) submitted to the JFC for inclusion in the joint targeting process that are considered to create an effect that is consistent with the commander’s objectives. The JTF staff, joint forces subordinate to the JFC, supporting [unified commands](#), and components all submit TDNs to the JFC for inclusion on the CTL.

² See Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3122.06, *Sensitive Target Approval and Review (STAR) Process* (classified publication), for more information on sensitive targets.

The second step of Phase 2 (Target Development) begins with the TDNs on the CTL being vetted and validated, and the JFC determining on which list the target should be placed. JTL is a consolidated list of targets upon which there are no restrictions placed and are considered to have military significance in the joint force_commander's operational area. Essentially, the JTL is a compilation of all known, vetted, and validated targets that may be selected by any component for any type of action; exploitation or attack, lethal or nonlethal, air, ground, space, cyberspace, or other execution methods. The air component, as with other components, may develop target nominations for inclusion on the JTL via the CTL process.

JTF components select targets from the JTL to compile their respective TNLs and forward them to the JFC. Even in a mature theater unanticipated conflicts may not have a JTL from which components may select their TNLs. In this case, as we saw in Afghanistan, components will nominate targets for engagement without reference to a standing list. The TNLs are then combined, validated, and prioritized to form a draft JIPTL that is submitted to the JTCCB for finalization. At each successive level throughout the life cycle of a target, a validation process occurs that checks targets against the NSL, RTL, ROE, current intelligence, commander's guidance, etc. Component commanders request the JFC (or the JFC's appointed representative) review and approve RTL targets nominated to the JIPTL that exceed the specified restrictions before execution. During operations, the JFC may delegate the authority to create the draft JIPTL to the COMAFFOR. If given this authority, the COMAFFOR's TET should execute the function of draft JIPTL creation.

The draft JIPTL is formed from consolidating and prioritizing the component TNLs based on prioritized JFC objectives. Those compiling the JIPTL consider the estimated available force capabilities and their ability to affect the targets on the list. The list usually contains more targets than can be serviced by the resources available. Thus, a draft JIPTL "cut line" is usually established. This "cut line" should reflect which targets should most likely be serviced for that ATO cycle, as well as the [joint space tasking order](#) (JSTO) and [cyber tasking order](#) (CTO) cycles. It should be clearly understood that the "cut line" simply reflects an estimate of the line above which targets are expected to be serviced by available resources, in priority order, and does not guarantee that a specific target will be attacked. Other variables like TSTs, changes in JFC priorities, emerging crisis, and changing resource availability may have an impact on target servicing. The JFC may also prohibit or restrict joint force attacks on specific targets or objects based on military risk, LOAC, ROE, or other considerations. Targeting restrictions fall into two categories, no strike (sometimes called prohibited) and restricted.

The NSL is a list of objects or entities characterized as protected from the effects of military operations under international law or the ROE. Attacking these targets may violate the LOAC (e.g., cultural and religious sites, embassies belonging to countries not party to the conflict, hospitals, and civilian schools), interfere with friendly relations with other nations, indigenous populations, or governments; or breach national guidance and ROE that stipulates authorized targets/target systems (e.g., national guidance to not damage the nation's economic infrastructure). The NSL is compiled

independent of, and in parallel to, the CTL. It is important to note, however, that entities from the CTL may be moved to the NSL if, as a result of additional target development, it is determined that attacking them may violate the LOAC and/or guidance.

Conversely, targets placed on a NSL may be removed and become subject to military action if their status as a protected object or entity has changed. It is critical to include the relevant staff judge advocate (SJA) in all aspects of target development and target list management. For example, religious and medical structures that functions as a weapons storage or barracks facilities may lose their protected status and may be legally attacked. However, not all situations create an automatic revocation of protection. For instance, the placement of an anti-aircraft artillery (AAA) piece on a medical facility, though an action in violation of LOAC, does not result in the loss of protection; but neither does the protection status negate the legal authority to attack the AAA. The situation requires special handling by planners and attackers to determine whether the AAA must be attacked and to ensure minimal effects upon the hospital when attacked, to include the appropriate [collateral damage estimation](#) (CDE) review and approval.

A restricted target is a valid target that has specific restrictions placed on the actions authorized against it due to operational considerations. Actions that exceed specified restrictions are prohibited until coordinated and approved by the establishing HQ. Attacking restricted targets may interfere with projected friendly operations. This list also includes restrictions on targets directed by higher authorities. The targets on the RTL are nominated by elements of the joint force, approved by the JFC, and include restricted targets directed by higher authorities. Targets may have certain specific restrictions associated with them that should be clearly documented in the RTL, such as do not strike during daytime or strike only with a certain weapon. Some targets may require special precautions, such as chemical, biological, or nuclear facilities, or targets in close proximity to no-strike targets. When targets are restricted from lethal attacks, targeteers should consider nonlethal capabilities as a means to achieve desired effects or support the objectives.

The previous section identifies key linkages between the joint targeting process and the air tasking cycle. Both elements should synchronize in every aspect of the process to ensure that the air component is adhering to the JFC's guidance and objectives with regards to targeting.

Products of the Phase

The JIPTL is a prioritized list of targets and associated data approved by the JFC or designated representative and maintained by the joint force. An approved JIPTL is the central product of the target development phase. Targets and priorities are derived from the recommendations of components in conjunction with their proposed operations supporting the JFC's objectives and guidance. Although it draws from many sources, the CPD TET has primary responsibility for the JIPTL within the AOC.

The JIPCL is a prioritized list of intelligence collection and exploitation requirements needed to support indications and warning, analysis, and future target development efforts and to measure whether desired effects and objectives

are being achieved. Requirements and priorities are derived from the recommendations of components in conjunction with their proposed operations supporting the JFC's objectives and guidance. An approved JIPCL is a product of answering information gaps as well as the collection and exploitation requirements stage of target development. The ISRD has primary responsibility within the AOC for the JIPCL, although considerable consultation with the SD OAT is required.³

The NSL is a list of objects or entities characterized as protected from the effects of military operations under international law and/or rules of engagement. Attacking these may violate LOAC—interfere with friendly relations with indigenous personnel or governments or breach ROE. Combatant commanders (CCDRs) and JFCs determine which targets are included on the NSL based upon inputs from components, supporting unified commands, or higher authorities. Targets on this list require national-level approval to strike. Targets on the NSL can only be moved to the RTL or JIPTL with national-level approval.

The RTL is a list of targets that have specific restrictions imposed upon them. Some actions on restricted targets are prohibited until coordinated and approved by the establishing headquarters. Targets are restricted because certain types of actions against them may have negative political, cultural, or propaganda implications, or may interfere with projected friendly operations. The RTL is nominated by elements of the joint force and approved by the JFC. This list also includes restricted targets directed by higher authorities. Actions taken by an opponent may remove a target from the RTL.

³ See [Air Force Instruction 13-1 AOC, Volume 3](#) for an expanded discussion on AOC divisions and teams.