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FOR DOCTRINE DEVELOPMENT AND EDUCATION



ANNEX 3-60 TARGETING

LEVELS OF ASSESSMENT AND MEASURES

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Assessors perform many types of assessment across the strategic, operational, and tactical levels to inform a wide array of decisions. These levels are distinct yet interrelated. [Strategic-level assessment](#) addresses issues at the joint force (e.g., winning a particular conflict) and national levels (e.g., enduring security concerns and interests). It involves a wide array of methodologies, participants, and inputs. The President and SecDef rely on progress reports produced by the CCDR or other relevant JFC, so assessment at their levels often shapes the nation's, or even the world's, perception of progress in an operation.

[Operational-level assessment](#) begins to evaluate complex indirect effects, track progress toward operational and strategic objectives, and make recommendations for strategy adjustments and future action extending beyond tactical re-attack. Assessment at this level often entails evaluation of COA success, assessment of the progress of overall strategy, and joint force vulnerability assessment. These are commonly performed by joint force component commanders (e.g., JFACC) and the JFC and their staffs.

[Combat assessment](#) (CA) is defined in JP 3-60 as the determination of the overall effectiveness of force employment during military operations. CA is composed of three major components: (a) battle damage assessment; (b) munitions effectiveness assessment; and (c) reattack recommendation.¹ CA typically focuses on task accomplishment and specific engagements. The results of tactical tasks, measured by MOPs, are often physical in nature, but also can reflect the impact on specific functions and systems. CA may include assessing progress by phase lines; destruction of enemy forces; control of key terrain, people, or resources; and security or reconstruction tasks. Assessment of results at the tactical level helps commanders determine operational and strategic progress, so JFCs should have a comprehensive, integrated assessment plan that links assessment activities and measures at all levels. From the Air Force perspective, these would include but not be limited to, in-flight reporting, weapon system

¹ With a broader concern for assessing operational, campaign level results, Air Force Annex 3-0 uses the term "Tactical Assessment" over "CA" because it is more broadly applicable and descriptively accurate: Not all operations (and hence not all assessments at the tactical level) involve combat. The name should apply to all tactical-level evaluation. The terms, however, are functionally equivalent for most purposes.

video (WSV), mission reports (MISREPs), full motion video (FMV) and cyberspace ISR activities.

CA determines the results of weapons engagement (with both lethal and nonlethal capabilities), and thus is an important component of joint fires and the joint targeting process. To conduct CA, it is important to fully understand the linkages between the targets and the JFC's objectives, guidance, and desired effects. CA includes the three related elements: battle damage assessment, munitions effectiveness assessment, and reattack recommendations or future targeting.

The purpose of battle damage assessment² (BDA) is to compare post-execution results with the projected results generated during target development. Comprehensive BDA requires a coordinated and integrated effort between joint force intelligence and operations functions. Traditionally, BDA is composed of physical damage assessment (PDA), functional damage assessment, and target system assessment; typically taking a three-phased approach to proceed from a micro-level examination of the damage or effect inflicted on a specific target, to ultimately arriving at macro-level conclusions regarding the functional outcomes created in the target system. This three-phase analysis suggests that BDA is both tactical and operational in nature.

Examining a hypothetical air strike scenario on a refining petroleum, oils, and lubricants target system, clarifies this process. Phase 1 BDA assesses the physical damage to the atmospheric distillation units at a refinery: six of the ten units were destroyed, two are damaged and two are on fire. Phase 2 BDA, assesses the functionality of the refinery.

- ★ Phase 1 BDA: PDA estimates the extent of physical damage to a target based upon observation or empirically based interpretation. PDA involves cooperative effort between units in the field and the AOC. Sometimes it utilizes data from other components or national agencies. Sources such as inflight reports (INFLTREP), mission reports (MISREP), and weapon system video are commonly used to generate PDA.
- ★ Phase 2 BDA: Functional assessment (FA) estimates the remaining functional or operational capability of a targeted object or entity. FA is usually inferred from reported physical damage and should include estimates of recuperation or replacement time. Note, however, that targets affected by many nonlethal capabilities often do not have physical damage, requiring assessors to perform FA in the absence of PDA. Assessment planners should anticipate appropriate measures and indicators for such effects.

² For additional information on the BDA process, see the Defense Intelligence Agency (DIA) publications DI-2820-4-03, *Battle Damage Assessment Quick Guide*; DI 2800-2-YR, *Critical Elements of Selected Generic Installations (Critical Elements Handbook)*; and JP 3-60, Appendix D, The Targeting Assessment Process.

- ★ Phase 3 BDA: Target systems assessment is a broad assessment of the overall impact and effectiveness of military force applied against an adversary target system relative to the operational objectives established.
- ★ Munitions effectiveness assessment (MEA): evaluates whether the selected weapon or munition functioned as intended. It examines the munitions' known parameters, the delivery tactics used, and the interaction between the munition and the delivery platform. MEA is fed back into the planning process to validate or adjust weaponeering and platform selections. It is also the form of assessment with the highest potential return on investment in terms of weapons and tactics development, because the data it generates is fed into the JMEM revision process, resulting in more accurate future capability analysis. MEA is inherently an operations function heavily supported by intelligence.
- ★ Estimated damage assessment (EDA): EDA is a type of physical damage assessment and is the process of anticipating damage using the probability of weapon effectiveness to support Estimated Assessments and allows the commander to accept risk in the absence of other information. Many times during execution, it is not possible to wait on ISR verification of strike results without inordinately delaying presentation of assessments to decision makers. EDA is an evolving technique of using Service documented munitions effectiveness (e.g., reliability, accuracy, effects, etc.), MISREPs, and other data to predict weapons effectiveness on targets and target systems as place holders for the probabilities of success in absence of reported BDA; a process facilitated by the precision and reliability of modern weapon systems. For instance, depending on the target type, size, number of weapons employed, and associated probability of damage, a prediction can be made of the target's continued level of operational capability. This information is also used to weight the need for additional collection in lieu of inherent reporting from the weapon(s), aircraft, or aircrew to provide an assessed prediction of the level of physical and functional damage inflicted on selected targets and target systems. Essentially, the prediction becomes more accurate as additional information is received and incorporated, if the additional accuracy is needed. Due to EDA's requirements for empirical data, its use should be limited to weapons that have Air Force certified data and/or contained in JMEM. How and when EDA is used should be determined during deliberate planning but should also be reviewed prior to each ATO execution. In general, it is appropriate for all but high-priority targets, but considerations for schemes of maneuver and strategic implications must always be considered. Normally, the COMAFFOR will provide guidance as to which targets/target sets they are willing to accept risk when authorizing assessments based on EDA.
- ★ Reattack Recommendations and Future Targeting: Future target nominations and reattack recommendations merge the picture of what was done (BDA) with how it was done (MEA) and compares the result with predetermined MOEs that were developed at the start of the joint targeting cycle. The purposes of this phase in the process are to determine degree of success in achieving objectives and to formulate any required follow-up actions, or to indicate readiness to move on to new tasks in

the path to achieving overall JFC objectives. Both operations and intelligence should work closely to present each target considered for restrike recommendation with the best and most current available information. Analysts may also discover that other targets in the system/network are now logical follow-on targets, or that the commander's objectives have now been met in regard to certain target(s), and that it is appropriate to recommend an end to further targeting within that target system or network. From the Airman's perspective, this element of Tactical Assessment occurs at the operational level. AOC planners are an integral part of providing the information to accomplish this for the COMAFFOR. Reattack recommendations should be consistent with JFC objectives and guidance.

Assessment has traditionally been an inherently federated undertaking. It relies upon intelligence and operational data. As such, organizations and individuals who may conduct assessment require access to the intelligence analyses of those who developed the targets and the operational information from the ATO which executes against those targets. See Appendix B for an expanded discussion on federated support for targeting and assessment.

Products of the Phase

Assessment products are diverse and vary with the level and type of assessment. For more on assessment refer to [JP 5-0, Appendix D](#); [JP 3-60, Appendix D](#); and [AFI13-1AOCV3](#).
