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COVER NOTE

From:	European External Action Service (EEAS)
To:	European Union Military Committee (EUMC)
Subject:	Avoiding and Minimizing Collateral Damage in EU-led Military Operations Concept

Delegations will find attached document EEAS(2015) 772 REV 8.

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EUROPEAN EXTERNAL ACTION SERVICE



**EUROPEAN UNION
MILITARY STAFF**

Brussels, 3 February 2016

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Subject: Avoiding and Minimizing Collateral Damage in EU-led Military Operations
Concept

Delegations will find attached the "Avoiding and Minimizing Collateral Damage in EU-led Military Operations Concept", which was agreed by the EUMC on 3 February 2016.

**AVOIDING AND MINIMIZING COLLATERAL DAMAGE
IN EU-LED MILITARY OPERATIONS CONCEPT**

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REFERENCES

- A. The Treaty on European Union.
- B. European Security Strategy (doc. 15849/03, dated 05 December 2003).
- C. EU Concept for the Use of Force in the EU-led military operations (doc. 17168/2/09 REV 2, dated 2 May 2011).
- D. EU Military Concept Development Implementation Programme 2015-2016 (doc. 7422/15, dated 20 March 2015).
- E. EU Concept for Military Command and Control (doc. 5008/15 REV 7, dated 5 January 2015).
- F. EUMC Glossary of Acronyms and Definitions (doc. EEAS (2015) 216, dated 13 February 2015).
- G. Council conclusions on CSDP (doc. 8971/15, dated 18 May 2015).
- H. EU Guidelines – Human Rights and International Humanitarian Law, Council of the European Union Brochure, March 2009.
- I. Concept on Protection of Civilians (PoC) in EU-led Military Operations (doc. 6730/15, dated 2 March 2015).

A. INTRODUCTION

1. CSDP operations have to be in line with the values and principles established in the Treaties of the European Union (EU) and set out in the Charter of Fundamental Rights, as well as with the EU's Security Strategy¹.
2. The considerations expressed in this concept are applicable in situations governed by the Law of Armed Conflict (LOAC), also called International Humanitarian Law (IHL). This law seeks to limit the effects of armed conflict by protecting persons who are not participating in hostilities, and by restricting and regulating the means and methods of warfare available to combatants and is inspired by considerations of humanity and the mitigation of human suffering. It includes the Geneva Conventions and the Protocols thereto, the Hague Conventions, as well as subsequent treaties, case law, and customary international law. In addition, there are international treaties binding some or all Member States (MS) that restrict the use of specific capacities and that could have impact on caveats and Rules of Engagement (ROE).
3. International law defines the limits for the use of force during EU-led military operations. ROE reflect the law and policy applicable to EU-led military operations. ROE do not limit the right of self-defence. In exercising this right, individuals and units will act in accordance with national law. Because national laws differ, there will not always be consistency between the nations as to where the right to use force in self-defence ends and the use of force authorised by ROE begins.
4. Military actions conducted during EU-led military operations should avoid, as far as possible, causing harm to those not engaged in hostilities and to their property².
5. Use of force at the initiative of the EU-led forces will be stated clearly in the mandate and correspondingly be reflected in the ROE.
6. In response to MS' concerns about causing Collateral Damage, this concept seeks to give guidance regarding avoiding and minimizing Collateral Damage during EU-led military operations governed by the LOAC³.

¹ Reference A and B.

² According reference C.

³ According reference D.

7. Concerns harboured about causing Collateral Damage can potentially reduce military operational effectiveness⁴. In addition Collateral Damage issues distract public and media opinion from the substance and intent of the EU-led military operation and may even increase the risk of strategic defeat.
8. Collateral Damage avoidance/minimization is a legal obligation in particular as regards civilian casualties and it is an important investment to maintain legitimacy and ensure eventual success (destroyed property can be rebuilt, people can't). Failure to avoid/minimize civilian casualties caused by lethal action such as direct and indirect fires during attacks⁵ will generate resentment and undermine popular support and it will undermine EU policy objectives as well as the EU-led military operations, while assisting opposing parties. Opposing parties may exploit civilian casualties' incidents and civilian casualties are likely to incite increased opposition to EU-led military operations.
9. EU-led military forces will face particular challenges when civilians are involved in or otherwise affected by hostilities. Specific actions may have to be postponed or modified if Collateral Damage would undercut mission goals or political support.
10. The EU should take actions which will help to avoid and minimize some of the causes of Collateral Damage. Improvements in the areas of planning and technology provide certain relief (e.g. more accurate weapons), but ultimately, it must be assumed that Collateral Damage is an inevitable risk of EU-led military operations.
11. This document should be read in conjunction with EU Concept for the Use of Force in the EU-led military operations (Ref. C) and Concept on Protection of Civilians (PoC) in EU-led Military Operations (Ref. I).

B. AIM AND SCOPE

12. The purpose of this concept is to define the conceptual framework concerning avoiding and minimizing Collateral Damage in EU-led military operations where the LOAC is applicable.
13. This concept is not intended to create new rules for use of force under international law.

⁴ Causing excessive Collateral Damage may expose military personal and commanders to possible legal proceedings, including prosecution, for violations of LOAC.

⁵ According to Article 49.1 of the Additional Protocol I - "Attacks" means acts of violence against the adversary, whether in offence or in defence.

14. This concept is applicable as soon as a situation corresponds to an armed conflict in which the EU-led forces are engaged (operations governed by the LOAC).

C. DEFINITIONS

For the purpose of this concept, the following definitions will apply:

15. Collateral Damage⁶ - The unintentional or incidental loss of life or injury to civilian persons or damage to civilian objects and/or environment⁷ arising from engagement of a legitimate military target.
16. Target - A target is a military objective, a combatant or a civilian directly participating in hostilities against which/whom lethal and/or non-lethal activity can be directed to create specific physical (destruction, capture or neutralization) and non-physical (psychological) effects.
17. Collateral Damage Estimate (CDE) - An approximate calculation of potential Collateral Damage derived through analysis prior to Target engagement.
18. Collateral Damage Estimation Methodology (CDEM) – A body of joint standards, methods, techniques and processes to conduct collateral damage analysis and produce Collateral Damage estimates.
19. Collateral Damage Assessment (CDA) - An analytical judgment derived by determining the amount and effects of Collateral Damage post Target engagement.

D. CONSIDERATIONS

20. In situations of armed conflict and occupation, Commanders have to focus on achieving objectives while paying attention to the possibility of Collateral Damage. Collateral Damage effects may occur, while using lethal or non-lethal means (e.g. EW-means affecting civilian communication infrastructure or medical equipment), varying in degree.
21. In order to avoid and minimize Collateral Damage in EU operations, the force commander will rely strongly on Knowledge development, Intelligence and an up-to-date Situation awareness that he will have to manage very accurately.

⁶ In addition see Article 57 and 58 of the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), 8 June 1977. National MS declarations to the Convention and Protocols have to be also considered.

⁷ This is not meant to affect the level of protection of the environment that must be respected under LOAC.

22. In order to ensure interoperability with NATO, NATO Standardisation Agreements (STANAGs) and Allied Publications (APs) related to collateral damage could serve as guidelines as far as practicable and in accordance with ref. E.
23. EU should develop relevant lessons learned in the EU Military Lessons Management Application (ELMA) concerning avoiding and minimizing Collateral Damage. This will be an important tool to help develop future methodologies and procedures for EU-led military operations.

E. LEGAL FRAMEWORK

24. The LOAC establishes cardinal principles to deal with the protection of civilians and civilian objects: distinction between civilians and combatants/civilians taking a direct part in hostilities on the one hand, and between military objectives and civilian objects on the other hand, and proportionality. EU-led forces are required to do everything feasible to distinguish, as far as persons are concerned, between combatants/civilians taking a direct part in hostilities on the one hand and civilians on the other hand, and as far as objects are concerned, between legitimate military objectives and civilian objects⁸. The principle of proportionality under LOAC establishes that any Collateral Damage must not be excessive in relation to the concrete and direct military advantage anticipated from the attack.
25. The LOAC applies in situations of international or non-international armed conflict, or occupation. Appropriate legal advice, together with sufficient intelligence about the particular context, should always be sought in determining whether a situation amounts to an armed conflict, and thus whether the LOAC is applicable⁹.
26. As soon as a situation rises to the level of an armed conflict in which the EU-led forces become engaged, operations by EU-led forces will be governed by the LOAC, and applicable national MS caveats for the contingent concerned.
27. Once an EU-led military operation has been launched, Troop Contributing Nations (TCN) should need to issue and make known to their commanders (national) restrictions and/or clarifying instructions in order to ensure that their personnel shall comply with their

⁸ Article 57 and 58 of the 1977 Additional Protocol I to the 1949 Geneva Conventions states that, in an international conflict, “constant care shall be taken to spare the civilian population, civilians, and civilian objects.” National MS declarations to the Convention and Protocols have to be also considered.

⁹ According reference C.

obligations under international/national law and/or political guidance of the contributing State concerned. Furthermore, TCN, through appropriate channels, must provide the Operation Commander (OpCdr) their national restrictions and caveats (if any) which may further restrict the use of force by their forces¹⁰.

F. EDUCATION AND TRAINING

28. Education and training is the foundation to ensuring that all reasonable and feasible precautions are taken in the choice of means and methods of attack with a view to avoiding, and in any event to minimising Collateral Damage. Training and education which has addressed the overarching principles and specific risk factors to be considered for Collateral Damage enable the EU-led military forces to adapt its approach to avoid and minimize Collateral Damage.
29. The target audiences for education and training in Collateral Damage are: decision-makers (i.a. political strategic level and Commanders), planners (i.a. Staffs) and operators (i.a. EU-led military forces).
30. In the pre-deployment phase, training of all EU-led military forces is a national responsibility. However, initiatives within the overall programme of EU exercises should include training on CDE, CDA, and with particular emphasis on the Collateral Damage Estimation Methodology.
31. Once deployed, EU-led military forces have to complete their training tailored to the actual operating environment.
32. The same awareness on LOAC, combined with technical training and procedures for avoiding and minimizing Collateral Damage, as appropriate should also be provided to host-nation forces involved in EU-led military operations.

G. PLANNING

33. To provide Commanders with an understanding of weapon effects, incidental consequences, and mitigation techniques, enabling more balanced, comprehensive judgments and decisions, a CDEM has been developed (Annex A)¹¹. It describes standards, which EU-led military forces

¹⁰ According reference C.

¹¹ Annex A was developed based on parts of the existing NATO CDEM (dated 26 January 2011) which has been released to EUMS for developing own guidance.

should apply.

34. The planning processes should be based on an accurate picture of the operational environment, including civilian concentrations, and implications for military operations and potential responses to Collateral Damage incidents. These incidents are more likely to occur when attacks are based on intelligence that is inaccurate, incomplete, or overlooked in a large mass of data. All the intelligence collected should be cross-checked with other sources to improve confidence in its accuracy. Along with information on threats, it is mandatory to include the most recent information on civilians, civilian objects and persons/objects accorded special protection under LOAC in the proximity of (potential) valid military targets to support the decision making on whether or not to engage a target.
35. An indispensable procedure to avoid and minimize Collateral Damage is the targeting process. Proper use of the command structure and the management and coordinating functions of the joint target coordination board and the joint coordination board should be utilised to ensure that the targeting process is fully coordinated both across, and up and down the chain of command.
36. An effective combat identification process¹² should aim to establish quickly and reliably the identity of any contact to a high degree of confidence, thus reducing the risk of Collateral Damage or engaging an invalid Target associated with a decision to engage to a level that is acceptable under the prevailing circumstances.
37. Guidance on avoiding and minimizing Collateral Damage should be given to OpCdr, by the Political and Security Committee (PSC)/Council, for the specific EU-led military operation. It should be noted that such guidance may impose limitations not required under LOAC, but which are instead derived from other considerations, such as political policy or strategic considerations.
38. In formulating the combat identification aspects of his Operational Plan (OPLAN) the OpCdr must consider a number of factors:
 - a. Collateral Damage will predictably be controversial, risking criticism against individual Member States (where they can be identified as being to blame) and of the EU itself. More importantly, such incidents have the potential to undermine the legitimacy of the

¹² The Combat identification is the process of combining target identification, situational awareness, specific tactics, techniques and procedures to increase the operational effectiveness of weapon systems and reduce the incidence of casualties caused by fire actions.

operations being conducted and have a possible negative strategic impact.

- b. TCN may have varying military capabilities with different abilities to avoid and minimize Collateral Damage, in particular civilian casualties. Some TCN may consider civilian casualties as an inevitable consequence of military operations. Others TCN may regard such casualties as highly controversial and the occurrence of such casualties could influence their will to continue their involvement in EU-led military operations. The OpCdr should be aware of strengths, weaknesses, caveats and perceptions in this respect.
- c. In situations of armed conflict, LOAC determines who and what may or may not be lawfully attacked. In particular, the rules of LOAC regarding distinction and proportionality, prohibit direct attacks against civilians (unless and for such time as they take a direct part in hostilities) and indiscriminate attacks including attacks which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.
- d. It is imperative for the EU-led military forces to implement all feasible precautionary measures possible, in particular to prevent civilian casualties when applying military force. Policy considerations in this respect may lead to ROE that are more restrictive than what is legally required, however, in all cases adequate force protection should be ensured and the fulfilment of the mandate should not be endangered.
- e. Establishing a robust and effective approach to identification of Targets in EU-led military forces, although challenging, is highly important. An early identification of optimum measures to engage a valid Target given the type and nature of the operation, the level of participation and interoperability, will be an important element of preparing the force. Training and liaison will be key means of reducing the risks of Collateral Damage.
- f. Enemy may seek to provoke EU-led military forces to engage valid Targets in ways which may result in higher levels of Collateral Damage, thus maximizing the potential for propaganda relating to civilian casualties so caused. In these circumstances, the concrete and direct military advantage anticipated must be balanced against the wider effects of these actions. Such considerations will form part of every decision on the use of force on every level of command.
- g. In all situations in which there has been a possible case of Collateral Damage, there is an absolute requirement for a complete assessment to be undertaken in order to determine whether genuine mistakes may have been made, and to quickly establish the facts surrounding the incident. To this effect the OpCdr and/or FCdr will try to establish the facts in accordance with ref. B and paragraph 51. below. Closely tied to this requirement

is the need for a responsive media approach that is truthful, informed, well-coordinated and timely. All investigations determining individual criminal and/or disciplinary responsibility are the sole responsibility of the troop contributing nation.

39. Commander's guidance and ROE together set parameters to make appropriate choices regarding the use of force. The OpCdr should request and implement ROE and issue weapons control statuses to avoid and minimize Collateral Damage.
40. It is crucial a robust CIS infrastructure is implemented to ensure timely exchange of information thus enhancing the situational awareness and early identification of potential Targets in the Area of Operations. This CIS architecture should comprise the reliable CIS architecture in place, adequate connectivity with MS and proper use of communication links between the deployed EU-led military forces, the Host Nation and all relevant actors in theatre (EU and non EU bodies, including local actors like NGOs, local authorities, etc.).

H. EXECUTION

41. The CDEM is required to support the proportionality test by which commanders determine whether the expected Collateral Damage anticipated from an attack would be excessive in relation to direct military advantage anticipated from the attack as a whole. To perform this test, commanders must be supported by a CDEM that predicts, within acceptable levels of accuracy, the expected levels of Collateral Damage likely to be produced by the type of engagement envisaged. Compliance with applicable legal obligations is a national issue too. While Member States may have individual policies regarding the methodologies and tools by which CDEM is conducted, as much as possible, a standardised CDEM should be adopted for each operation, including standardization of tools in order to maintain unity of effort and operational effectiveness.
42. The CDEM process employs a form of "tiering" methodology, with increasing levels of Collateral Damage risk at each tier. The level of risk will be described in a form measurable by defined CDEM tools that will be employed by designated, qualified, operators. The same tools will be used to mitigate risks, by modelling the variables in an attack - this is particularly true for lethal actions. These includes the parameters (direction, fusing, etc.) and the time of the attack (some Targets are best attacked at times when the Target is not in normal use, for instance at night); the weapon(s) to be used; the local environment and geography of the Target; the characteristics of the Target itself (e.g. if it contains hazardous or environmentally damaging material etc.); the proximity of any other structures or civilians within a given

distance from the Target.

43. When, after all reasonable and known mitigation techniques have been exhausted during the targeting process, Collateral Damage appears unavoidable, and exceeds preapproved authority, commanders have to seek approval on the next higher echelon of command, possibly the PSC if they still wish to pursue that Target. This could happen in case of environmental concerns, or a chemical, biological, or radiological plume hazard.
44. For Targets of a politico-strategic importance, that have not been pre-approved, authority to engage should be sought from the PSC under the authority of the Council. OpCdr must present to decision all relevant legal, political and Collateral Damage estimation information, and a full understanding of the military advantage anticipated in attacking the Target. The authorization by the PSC/Council may require some caveats and mitigation measures.
45. Collateral Damage can be partially avoided and minimized by having good relationships with key host-nation leaders and the host-nation population. In addition EU-led military Commanders on all levels need a high level of cultural awareness in order to enable them to properly appraise the behaviour of the civilian population. Cultivating such relationships requires time, and Collateral Damage avoidance and minimization efforts can have an important effect on these relationships. EU-led military Commanders must have a long-term perspective with respect to security in the Joint Operations Area (JOA). Short-term thinking must be avoided because it is likely to lead to behaviour that will generate widespread resentment and lead to a more insecure JOA in the future. Commanders might be advised by or might benefit from “cultural advisors” or “liaison officers/people” provided by the local authorities in order to have a more accurate situation awareness and to minimize risk of Collateral Damage.
46. The information environment will be affected by all actions undertaken in the context of an operation, both lethal and non-lethal, either in positive manner, such as by closing the say-do gap¹³, or negatively by contradicting the EU's message to audiences within and outside the JOA. One of the negative effects can be caused by Collateral Damage, especially damage that causes civilian casualties, which might have the secondary effect of significantly harming general support for the EU operation and/or EU-led military forces. That's why, the potential effect of attacks should be taken into consideration from the outset of the joint targeting cycle. Military Information Operations, Public Affairs, POLAD and LEGAD staffs should be

¹³ Understand why that person says one thing, yet does another.

included at every appropriate level of the targeting process¹⁴.

I. ASSESSMENT

47. Assessment is required in order to understand what has really happened but also to facilitate future decision-making process, evaluate ongoing activities, identify potentially necessary changes to the training plan, OPLAN and relevant implementing directives, and to face media reports or rumours.
48. Assessment is essential in order to ensure that the OpCdr is in full possession of the facts and has all necessary information to face media reports or rumours of an incident and to be able to respond in a timely fashion to developing local or international news media. The OpCdr should not wait until after an incident has been fully investigated. To do so may give others an opportunity to distribute false information about the incident. The first credible story usually has the greatest influence on public opinion, and for local and provincial leaders. On the other hand, the OpCdr should ensure that early release of less precise information to gain influence is not counterproductive at the later stage.
49. The Collateral Damage assessment must occur continuously and complements assessing battle damage and monitoring, analysing, and recommending action. Assessments include immediate reviews after incidents, as well as in-depth analysis to examine trends over time. Similarly, after initial casualty reports, investigations and analyses should lead to thorough reports of findings.
50. It is not reasonable to expect that Collateral Damage can be completely eliminated in all instances. So when a Collateral Damage incident occurs, the most important part of the initial response is to determine the facts of the incident, including the number of casualties and severity of the incident. The lack of accurate information also hinders or delays operational and institutional learning for Collateral Damage avoidance and minimization.
51. Without prejudice to the powers vested in the national competent authorities, the OpCdr and the FCdr will, with the control powers vested in them by their command responsibilities, determine the factual circumstances in which alleged collateral damage was caused¹⁵. The report of the OpCdr/FCdr will be processed through the EU Chain of Command and be

¹⁴ A robust communication plan to manage the level of expectations of the local population. Managing expectations will help accomplish implementation of the mandate.

¹⁵ In accordance with paragraph 84 of reference C.

communicated to the Senior National Representative of the individual or unit concerned for any appropriate action.

- a. Guidance and Reporting During the conduct of EU-led military operations, command and control will be exercised providing guidance and reporting within the EU Chain of Command. The PSC provides strategic direction to the OpCdr inter alia through the CEUMC as the primary Point of Contact¹⁶.
- b. Based on guidance received, the EEAS (including the EUMS) will provide the OpCdr with¹⁷:
 - (1) updates on the political situation;
 - (2) information on other EU activities of relevance to the operation;
 - (3) other relevant information.
- c. The reporting by the OpCdr will follow modalities to be defined on a case-by-case basis in the Initiating Military Directive (IMD) and developed in the OPLAN. They may include¹⁸:
 - (1) casualties from EU-led forces and/or from among the civilian population;
 - (2) suspected crimes against international humanitarian law and crimes against humanity;
- d. OpCdr is responsible for the definition and application of the modalities of information exchange within the military chain of command, taking also into account the EU principles for security information management¹⁹.
- e. The OpCdr and the FCdr of EU-led military operations will report routinely on the use of force in the operation concerned. Reporting will be conducted in accordance with the OPLAN and its relevant annex. Should violations of the ROE have occurred, commanders will take all necessary measures to ensure that circumstances of the incident are documented adequately²⁰.

¹⁶ According reference E.

¹⁷ According reference E.

¹⁸ According reference E.

¹⁹ According reference E.

²⁰ According reference C.

COLLATERAL DAMAGE ESTIMATION METHODOLOGY

1. The CDEM supports employment of conventional munitions for any type of operation where they could be used. It provides commanders with an understanding of weapon effects, incidental consequences, and mitigation techniques, enabling more balanced, comprehensive judgments and decisions.
2. The methodology, its components and its products are not, nor should they be considered an exact science. The CDEM methodology is an estimate of the potential for Collateral Damage and constitutes one tool to manage and reduce risk of Collateral Damage during EU-led operations.
3. The initial CDE may differ from the actual result following attack/weapons release due to the fluid/changing nature of the intelligence, operational and targeting environment. All kinetic pre-planned engagements must be subject to the CDEM.
4. Collateral Damage risk management is two-fold:
 - a. The methodology is designed to provide a credible estimation to enable the identification of possible courses of action based on the level of risk, thereby allowing commanders to understand, consider and mitigate CDE risks. A determined level of responsibility for approving the target can thereafter be identified.
 - b. The technical basis for the application of these CDE levels is based upon munitions effectiveness data for air, ground and sea launched weapons.
5. The Collateral Damage thresholds are based on increasing risk levels that will require specific courses of action to engage the target. Figure 1 depicts the interaction between collateral damage and weaponeering restrictions for each CDE level.

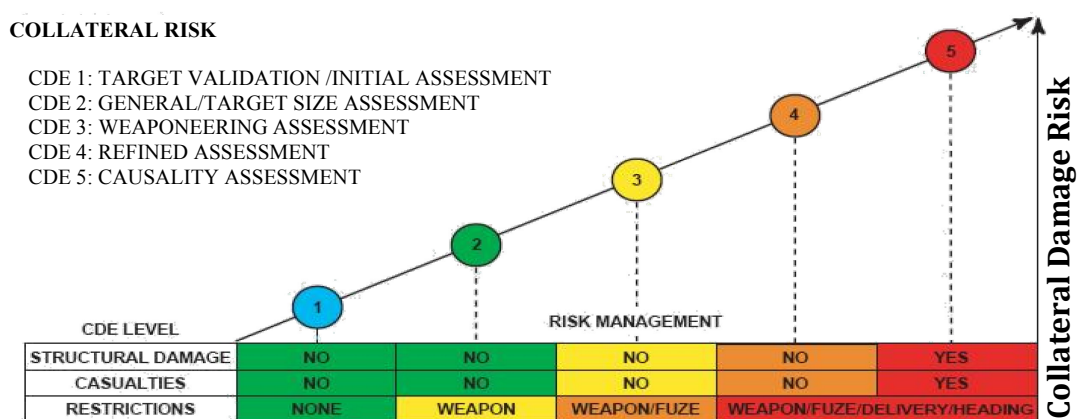


Figure 1 – Risk and Collateral Damage Estimation Methodology

6. The CDEM shown in Figure 2 is based on 5 progressive and ascending CDE levels. Each level is based on refined analysis of available intelligence, weapon type and effect, the physical environment, target characteristics, and delivery scenarios with specific thresholds established for each of the five CDE levels. These levels express the risk estimation for Collateral Damage based on the existence of Collateral Damage Risk Objects (CDRO)²¹ in the Computed Collateral Hazard Area (CHA)²². For CDE levels 1 and 2 the Collateral Effects Radius (CER)²³ that defines the CHA, will be outlined in the respective OPLAN in order to enable the commander to conduct quick Collateral Damage estimation without the requirement to go through a detailed weaponeering process based on the information provided by the Troop Contributing Nations on the CER of conventional weapons that will be used in the operation. Levels 3 to 5 consider the weapons options in increasing detail to minimize the CDE risk.

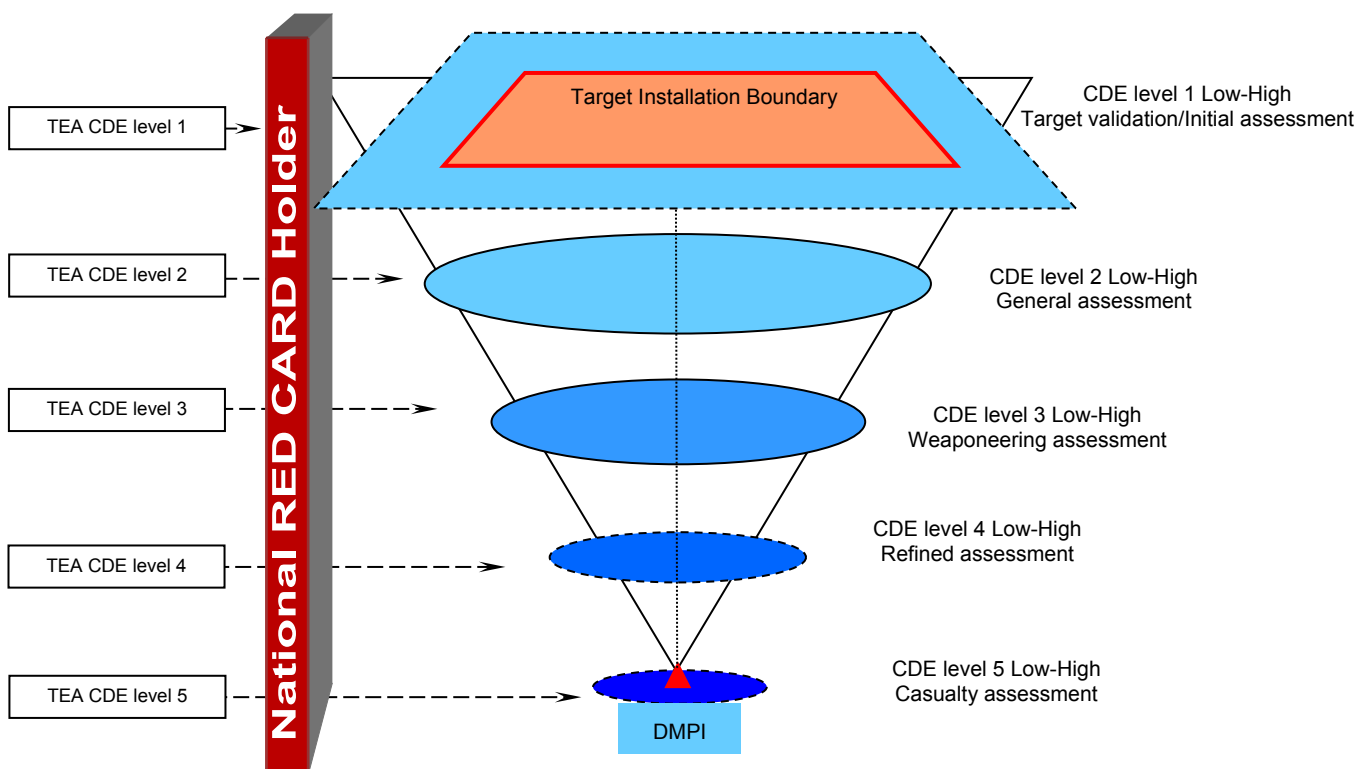


Figure 2 – CDE level cone

²¹ CDRO - Civilians, civilian property or the environment that are not lawful military targets under International Law.

²² CHA - An area formed by measuring a Collateral Effects Radius from either the edge of a target facility boundary, the aim point for a point target, or the edge of an engagement zone or artillery sheaf for an area target.

²³ CER - Radius representing the largest collateral hazard distance for a given warhead, weapon, or weapon class considering predetermined, acceptable Collateral Damage thresholds that are established for each CDE level. A CER value contains the total error associated with a specific munition and method of employment as well as the radius of dominant warhead effects.

7. To authorize an engagement (other than level 5 High), the respective CDE level criteria must be fulfilled. If any CDE level criterion is not fulfilled, either the target is not authorized for engagement or more detailed planning/mitigation must take place at the next higher CDE level before any engagement can be authorized.
8. The level of command required to authorize an engagement at each CDE level, is called Target Engagement Authority (TEA) and is defined in the OPLAN. The appointed TEA is the lowest level of delegated authority.
9. This CDEM requires that the target is a positively identified (PID), legitimate, pre-planned military target, authorized for prosecution. At least, two different means to PID the target are deemed necessary²⁴. The generic approach for the methodology presupposes absolute accuracy in the location of the target. If the target location inaccuracy is known, for CDE the target changes from a point to a circle with this inaccuracy as radius.
10. As compliance with national legal obligations remains a national issue, Troop Contributing Nations are critical enablers to the CDE process. A *National Red Card Holder* will be designated and can prevent the planning or execution of a target by his national assets and authorise or stop the process at any point.
11. As CDE incidents could have strategic effects on the operation, CDE key elements will be defined in the OPLAN. This will be binding for all subordinate commands and will be implemented through guidance and specific instructions on the CDE process in their respective OPLANs and orders.
12. At each CDE level an assessment is produced. If CDRO are not within the computed CHA or if the specified level of risk to CDRO is not exceeded, a higher CDE level is not needed. If a low assessment is rendered, the methodology supports engagement of the desired target based upon the conditions and restrictions specified by the CDE level concurrent with the low assessment estimate. If CDRO are within the CHA or the specified level of risk to CDRO is exceeded, the next CDE level processes are required to be performed.
13. CDE level 1 - Target Validation/Initial Assessment
For CDE level 1, the area inside the target installation boundary and the defined surrounding level 1 CHA is clear of CDRO. There are not significant environmental or Chemical, Biological, Radiological and Nuclear (CBRN) concerns within the level 1 CHA. If the target

²⁴ With the exception of permanent human observation.

fulfils the above-mentioned criteria, this qualifies the Target as CDE level 1 LOW. The appointed TEA for CDE level 1 can then authorize the engagement. If the target fails to meet any of the criteria or CDRO are identified within the target installation boundary and CHA it is qualified as CDE level 1 HIGH and it must be further examined at CDE level 2, or at CDE level 5 if there are significant environmental or CBRN concerns, before any lethal engagement may take place.

14. CDE level 2 - General Assessment

CDE level 2 begins the process of defining weaponeering options that both achieve the desired target effect and mitigate the potential for Collateral Damage. This level takes a low risk approach to CDE with the least number of weaponeering and tactical employment restrictions. An assessment is done based on the target's size compared to the weapon system's or delivery platform's delivery error for unguided or ballistic munitions in order to determine their use. For Precision Guided Munitions²⁵ an assessment is done to evaluate target engagement on individual aim points while minimizing the weaponeering restrictions. The area inside the defined level 2 CHA must be clear of CDRO. If the target fulfils the above-mentioned criteria this qualifies the Target as CDE level 2 LOW. The appointed TEA for CDE level 2 can then authorize the engagement. If the target fails to meet either criteria or CDRO are identified within the CDE level 2 CHA, the target is qualified as CDE level 2 HIGH and must be further examined at CDE level 3 before any lethal engagement may take place.

15. CDE level 3 - Weaponeering Assessment

CDE level 3 begins the process of refining weaponeering options that achieve the desired effect on the target and mitigate Collateral Damage, by attacking the target with a different weapon or with a different method of engagement. The goal of CDE level 3 is to achieve a low CDE assessment while limiting the number of tactical weaponeering restrictions. Considering the weapon class and system, delivery platform, and/or PGM warhead type, CDE level 3 determines appropriate delivery systems, warhead, and fuse combinations that mitigate the risk of Collateral Damage while still achieving the desired effect on the target. CDE level 3 will be supported based on released national products (i.e. CER tables for PGMs. Air to Surface Unguided Munitions and Surface to Surface Ballistic Munitions). If the target fulfils the above-mentioned criteria this qualifies the Target as CDE level 3 LOW. The appointed TEA for CDE level 3 can then authorize the engagement. If the target fails to meet either criteria the

²⁵ Precision Guided Munitions - Internal or external guided munitions capable of locating, identifying and manoeuvring to engage a point target with accuracy sufficient to yield a high probability of destruction.

target is qualified as CDE level 3 HIGH and must be further examined at higher CDE level 4 before any lethal engagement may take place. For CDE level 3 HIGH assessment, serious consideration should be given when engaging the target with PGMs only. However, if PGMs are not available, the target must be examined at CDE level 4.

16. CDE level 4 - Refined Assessment

At CDE level 4, mitigation techniques in addition to delay fusing (bomb burial) are applied. These mitigation techniques include variable time fusing (air burst), shielding, delivery heading and aim point offset. CDE level 4 takes into consideration characterization of structure hardness. The probability of fractional structural damage from blast is based on the assumption that civilian personnel will be located in collateral structures which afford some measure of protection from fragmentation. The use of unguided or ballistic munitions is highly discouraged at this level and above. If the target fulfils the required criteria this qualifies the Target as CDE level 4 LOW. The appointed TEA for CDE level 4 can then authorize the engagement. If the target fails to meet any other criteria the target is qualified as CDE level 4 HIGH and must be further examined at CDE level 5 before any kinetic/lethal engagement may take place.

17. CDE level 5 - Casualty Assessment

CDE level 5 is used when all reasonable and known mitigation techniques have been exhausted and some level of collateral damage appears unavoidable. CDE level 5 is also performed when level 1 assessment determines CBRN and/or environmental concerns. The attack is likely to cause damage to surrounding civilian buildings and may cause civilian casualties. Casualty assessment needs available intelligence (Pattern of Life, Demographic Data) to provide an estimate of population density in a specific collateral concern area. Commanders must be aware that they are assuming significant risk of collateral damage when engaging a target assessed under CDE level 5.

18. Limitations and exclusions

- a. The CDEM it is not applicable to nuclear and nonlethal capabilities.
- b. CDE as specified in this instruction is not required for surface to surface direct fire weapon systems. The risk of Collateral Damage from these weapon systems is presented by the distribution of munitions in the target area and not from the explosive effects of the warhead. The LOAC principles of distinction, proportionality, necessity and humanity are considered for employment of direct fire weapon systems.

- c. The CDEM does not account for weapon malfunctions, operational delivery errors, or altered delivery tactics based on operator judgment, neither does it account for unknown transient civilian or non-combatant personnel and/or equipment in the vicinity of a target area.
- d. The CDEM does not account for individual marking or adjusting rounds when employing surface-to-surface ballistic munitions in the observer adjusted method of engagement.
- e. While the CDEM can be applied to any geographic region, weapons effects may vary in different environments.
- f. This CDEM does not account for the risk to own/allied forces.
- g. This CDEM accounts for primary weapon effects only; secondary effects need to be analysed.
- h. This CDEM does not supersede national targeting directives, national caveats and national-level rules of engagement.
- i. This CDEM takes into account that the use of multiple weapons against a single Desired Mean Point Impact²⁶ will be treated as a single weapon (exemptions are ripple release of weapons and dispenser delivered sub-munitions).
- j. As shown in Figure 3 a ripple release (stick) of weapons against a single DMPI requires the examination of every single weapon, unless the stick-length and associated CER stay within the confines of the area defined for CDE level 1.

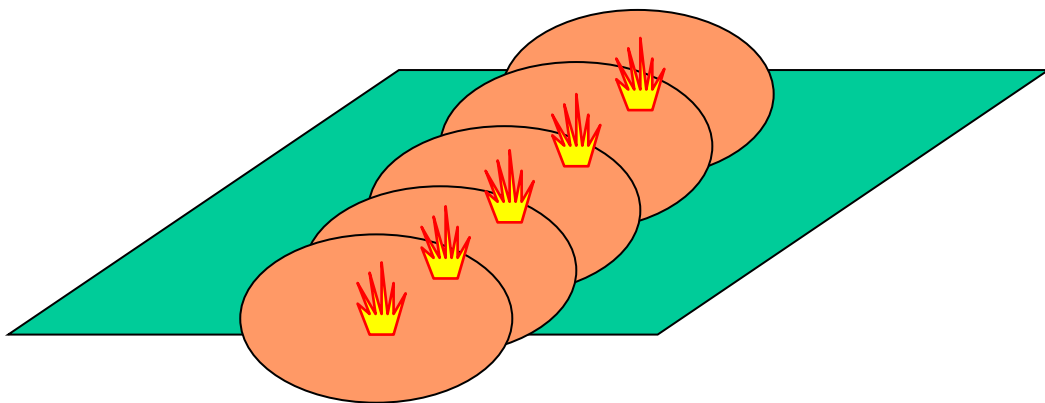


Figure 3 – Ripple release of weapons

²⁶ Desired Mean Point Impact - The desired impact point of the hypothetical weapon or a stick of weapons.

- k. For dispenser²⁷ delivered sub-munition²⁸, the weapon effectiveness depends on the release altitude and dive angle due to adverse effects such as wind conditions and weapon dispersion. The use of these weapons requires the examination of the sum all CER, that defines the Risk Area Perimeter. If this area is clear of CDRO, the target is cleared for engagement. If the area is not clear of CDRO, the target engagement requires TEA level 5 Low or level 5 High approval.

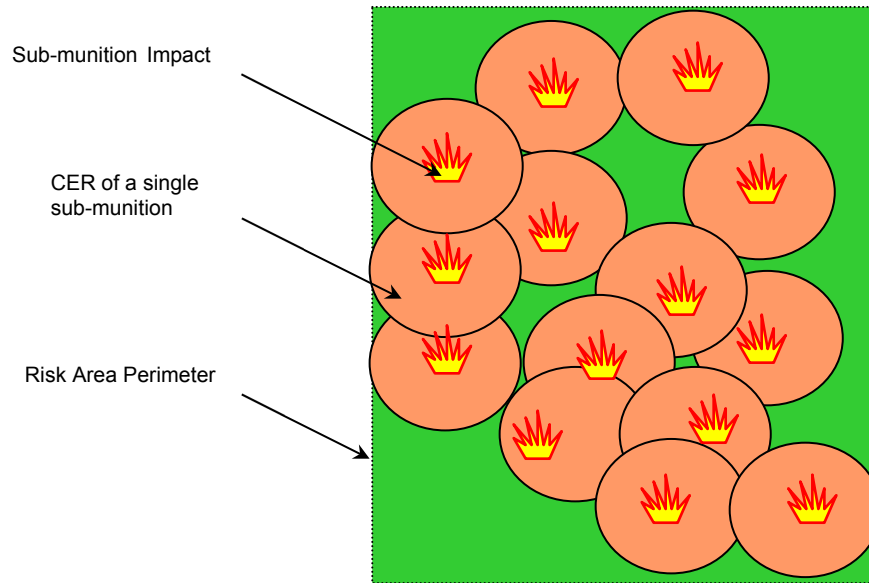


Figure 4 – Dispenser delivered sub-munition Collateral Damage Risk Area

²⁷ In air armament, a container or device which is used to carry and release sub-munitions.

²⁸ Cluster munitions as defined in the OSLO convention are not encompassed in this category. It should be noted that most EU Member States have banned the use of cluster munitions.