SECRETARIAT

UPDATES TO EXPLOSIVE ORDNANCE DISPOSAL LANGUAGE AND EQUIPMENT

Secretariat Issue Paper # 28

1. ISSUE PAPER THEME: Major Equipment

2. SUMMARY / BACKGROUND / PREVIOUS HISTORY

Since the 2023 COEWG and the subsequent publishing of the 2023 COE manual, UNMAS has identified several opportunities for clarification of the language referring to Explosive Ordnance Disposal (EOD), Improvised Explosive Device Disposal (IEDD) and Demining. These are a result of updated EOD doctrine as well as experience in MOU negotiations where these uncertainties are made visible.

This issue paper strives to update references to applicable documents and better define the language surrounding explosive ordnance disposal equipment to align with language used in the United Nations relevant documents and SUR. These changes will facilitate MOU discussion and verification of COE during pre-deployment visits and in-mission verification.

In addition to the proposed technical edits this IP attempts to update the description of EOD equipment within chapter 8 of the COE manual to align with EOD team requirements as described in the United Nations Peacekeeping Military EOD Unit Manual, 3rd edition (2024). This will help to simplify the list of EOD major equipment within the COE manual by eliminating obsolete or redundant items in the COE manual.

Currently, the COE manual gives a definition for explosive ordnance disposal in Chapter 2 Annex A but fails to differentiate between conventional munitions disposal (CMD) and improvised explosive device disposal (IEDD) which are complementary but different capability sets within peacekeeping missions. Also, no explanation is given for demining, which, although similar in nature, requires a different skill set than explosive ordnance disposal. Aligning the definition of EOD with the relevant United Nations doctrine specially United Nations Peacekeeping Missions Military Explosive Ordnance Disposal (EOD) Unit Manual and providing clarification of differing terminology EOD/CMD/IEDD will enable military planners to better define major equipment requirements in SUR and aid MOU negotiations.

Chapter 8 Annex A lists reimbursement rates for major equipment, including the category “Demining, explosive ordnance and improvised explosive device disposal equipment”. This issue paper proposes technical and substantial changes to this category to align the major equipment with the critical equipment requirements set forth in the United Nations Peacekeeping Missions Military Explosive Ordnance Disposal (EOD) Unit Manual, by eliminating redundant and obsolete items and clarifying the language used within this category.

Finally, this issue paper proposes to dissolve the Chapter 8 Annex A Category “Demining, vehicles for the disposal of explosive ordnance and improvised explosive devices”.

3. DETAILED PROPOSAL

The following amendments have been identified in the 2023 COE Manual for inclusion into the 2026 COE Manual:

COE manual section	Proposed Change	Rationale
Chapter 2 Annex A Para 7	Change to read (Changes in bold): Explosive ordnance disposal (EOD): ~~**The process of detection, identification, onsite evaluation, rendering safe, recovery and final disposal of unexploded ammunition.**~~ **The term Explosive Ordnance Disposal (EOD) includes the procedures of detection, location, access, identification, evaluation, hazard mitigation, render safe, recording and recovery, and final disposal of explosive ordnance or any hazardous material associated with an EOD incident. Explosive ordnance disposal is the overarching term for conventional munitions disposal and improvised explosive device disposal.** • **Conventional munitions disposal (CMD) refers to any EOD operation conducted on ammunition that is used as a conventional weapon.** • **Improvised explosive device disposal refers to the EOD procedures, intended to result in the final neutralization of an IED.** ~~**It**~~ **Explosive ordnance disposal** is conducted on behalf of the mission by a specialist unit as a force asset. Force operations to dispose of explosive ordnance may conduct activities in all or part of the mission area. They may also include ammunition that has become hazardous as a result of damage or deterioration.[3] In the context of self-sustainment, explosive ordnance disposal means such disposal conducted by a unit within its accommodation or camp area.[4]	Align the definition of EOD with the relevant United Nations doctrine specially United Nations Peacekeeping Missions Military Explosive Ordnance Disposal (EOD) Unit Manual and provide clarification of differing terminology EOD/CMD/IEDD. This clarification in the COE manual will enable MOU negotiations to determine which equipment is necessary to create operational teams based on capability requirements in the SUR. As part of the EOD doctrine revision, critical equipment lists have been updated in the United Nations Peacekeeping Missions Military Explosive Ordnance Disposal (EOD) Unit Manual. However, the United Nations Peacekeeping Missions Military Explosive Ordnance Disposal (EOD) Unit Manual uses slightly different nomenclature and does not distinguish between major and minor equipment.
Chapter 2 Annex A Para 7	Insert new footnote “3” and align numbering on all subsequent footnotes: Explosive ordnance disposal (EOD): The term explosive ordnance disposal includes the procedures of detection, location, access, identification, evaluation, hazard mitigation, render safe, recording and recovery and final disposal used in the disposal of items of explosive ordnance or any hazardous material associated with an EOD incident.[3] Footnote text: [3] United Nations Peacekeeping Missions Military Explosive Ordnance Disposal (EOD) Unit Manual 3rd Edition 2024	Including the reference to the UN PKM Military EOD Unit Manual will help in keeping future revisions of the COE manual in line with relevant EOD doctrine.
Chapter 8, annex A, Category of equipment “Demining,	Change name of category to **Demining and explosive ordnance disposal equipment**	Explosive Ordnance Disposal, as defined by relevant doctrine includes both conventional munition disposal (CMD) and Improvised Explosive Device Disposal (IEDD).

explosive ordnance and improvised explosive device disposal equipment"	Change: Man-portable high-power electronic countermeasure (cell/GPS/jammer) to read: **Portable high-power electronic countermeasure (cell/GPS/jammer)**	Gender neutral language
	Create new equipment category: **Electronic countermeasures equipment** Move: - **Portable high-power electronic countermeasure (cell/GPS/jammer)** And - **Vehicle-mounted electronic countermeasure (jammer) against remotely activated improvised explosive devices** From category: Demining/explosive ordnance disposal equipment And - **Radio frequency inhibitors/cell phone jammer (portable/man pack) (set of 3)** And - **Radio frequency inhibitors/cell phone jammer (vehicle-mounted)** From category: Miscellaneous communications equipment **To new category:** **Electronic countermeasures equipment**	The radio frequency inhibitors in the miscellaneous communications equipment category and electronic countermeasures equipment in the demining/EOD category fulfill similar functions. All four items were added during the 2017 COEWG resulting from Secretariat issue paper 03 "Modernization of contingent-owned equipment" and Spain issue paper on "Capability Requirements (CR) of CCTV and jammer". As they cannot directly be subsumed under either category, it is proposed to create a new category for all electronic countermeasure equipment currently in the COE manual, and future equipment that may be inserted in the future. Alternatively, all ECM equipment should be moved to the category "miscellaneous communications equipment" as this better demonstrates the responsible military branch (EWO/Signals) that is usually responsible for this equipment.
	Change: Portable digital X-ray system, including 2 personal dosimeters (with capability to read exposure levels), for use with for disposal of explosive ordnance to read: **Portable digital X-ray System, including x-ray generator, detector plate, analysis unit, and 2 personal dosimeters (with capability to read exposure levels)**	x-ray systems consist of: an x-ray generator, a detector plate, and an analysis unit (laptop with software to view the generated system). The existing x-ray system already includes all necessary components, although they are not explicitly named. This change in the name provides clarity. Dosimeters are required for personal safety. The change of name is advised to ease MOU negotiations and COE inspections
	Delete: **Personal dosimeters (with capability to read exposure levels)**	In reference to row above: Redundant, already listed as part of x-ray system.

	Update the **Demining explosive ordnance disposal (conventional ammunition disposal toolkit) (set)** as follows: Change name: **Demining explosive ordnance disposal (conventional ammunition disposal toolkit) (set)** To read: **Conventional munitions disposal toolkit (set)** Delete: **Firing Cables (300m)** Recalculate GFMV of firing system to include current GFMV/maintenance rates of firing cables.	The name change is recommended to better distinguish between equipment required by Deminers, Conventional munitions disposal operators and improvised explosive device disposal operators. Firing cables do not fit the criteria for Major equipment as they serve only as an accessory to the "firing system to initiate disruptors/charges". Firing cables may be damaged during demolitions, and (if threshold "300m" is kept) may need to be replace more frequently It is recommended to remove the "firing cables (300m)" from the list of major equipment and treat them as minor equipment in support of the firing system.
	Change: **Improvised explosive device disposal toolkit (add-on to conventional ammunition disposal toolkit) (set)** To read: **Improvised explosive device disposal toolkit (add-on to conventional munitions disposal toolkit) (set)**	Alignment of technical language with relevant doctrine
	Delete: **Non-linear junction detector**	Obsolete technology, fulfills same function/capability as handheld cable detectors already included in chapter 8 Annex A
	Change requirements of the EOD suit heavy to a minimum V50 rating of 1,800 m/s. Change name: **Explosive ordnance disposal suit, heavy (minimum V50 rating of 1,600 for the chest and groin)** To read and insert footnote: **Explosive ordnance disposal suit, heavy (minimum V50 rating of 1,800 m/s for the chest and groin)**[w] [w] **Certified by NIJ 00117.01, STANAG 2920, GOST 34286-2017 or other equivalent standard**	Currently, the EOD suit heavy and EOD suit light require minimum V50 ratings for the chest and groin of 1600 and 1000 respectively, without mentioning a unit to qualify the number. The most common, globally accepted standards for EOD suits are NIJ 00117.01, STANAG 2920 and GOST 34286-2017. Currently deployed models of "EOD suit, heavy" that could be identified by make/model all exceed the requirement of 1800 m/s according to one or more of the above standards. Therefore, there are no financial implications in the change when

		applied to currently deployed equipment. Currently, the EOD suit heavy and EOD suit light require minimum V50 ratings for the chest and groin of 1600 and 1000 respectively, without mentioning a unit to qualify the number. The most common, globally accepted standards for EOD suits are NIJ 00117.01, STANAG 2920 and GOST 34286-2017. Currently deployed models of "EOD suit, heavy" that could be identified by make/model all exceed the requirement of 1800 m/s according to one or more of the above standards.
	Update the **Demining/explosive ordnance disposal personal protection for the disposal of explosive ordnance/improvised explosive devices (set)** as follows: Change name: Demining/explosive ordnance disposal personal protection for the disposal of explosive ordnance/improvised explosive devices (set) To read: **Demining personal protection equipment for the disposal of explosive ordnance (set).** Include a new footnote [x] to read: **The minimum requirement according to International Mine Action Standard 10.30 is a full-face visor and upper body protection.** Change: protective helmet and visor To read: **protective visor** Change: protective apron/trousers To read: **protective trousers** Change: protective jacket/vest To read: **protective apron/jacket/vest** Recalculation of GFMV:	This set of PPE is mainly used by deminers during demining operations and rarely by conventional munitions disposal personnel for the disposal of explosive ordnance. It is not used by IEDD personnel. Therefore, the name should be changed to deconflict from EOD suits. The minimum requirement according to IMAS 10.30 is a full-face visor and upper body protection. Apron, jacket and vest offer different levels of upper body protection, while trousers cover the lower body/legs. The selection of apron, jacket or vest depends on local requirements, taking into account the type of tasks and expected threats. Regardless of which is used, minimum protection includes chest, abdomen and groin area against blast effects. However, it is generally not necessary to equip one person with all three types of upper body protection. As protective trousers and protective shoes are add-ons to the minimal required demining set, they should only be reimbursed if the "Demining personal protection equipment for the disposal of explosive ordnance (set)" (consisting of upper body protection and visor)" is serviceable as well

	Fix the arithmetic errors in the reimbursement rates calculation. It is recommended to **adjust the demining PPE (set) to be calculated only to cover protective visor, protective apron/jacket/vest and reinforced gloves (pair) to meet minimum requirements.** To cover scenarios where additional protective gear such as protective shoes and trousers may be required these should remain in the manual to be reimbursed separately when required. This should be clarified in the SUR.	Reinforced gloves, while technically not part of the minimum requirement, enable deminers to handle debris/objects without the risk of cuts or other injuries that will reduce the effective work of the deminer.
Demining, vehicles for the disposal of explosive ordnance and improvised explosive devices	Delete: **Remote-control mine clearance tracked vehicle**	Currently not deployed. Description is too vague to describe a capability that needs to be purchased according to mission-specific analysis. GFMV and maintenance requirements fluctuate according to required needs ($100,000-$800,000) which results in over-/underspending in reimbursement Suggest deletion or listing as special case
	Move: **Remotely operated vehicle with observation and/or disruption capacity** To equipment category: **Demining and explosive ordnance disposal equipment** And change to read: **Remotely operated vehicle with observation and~~/or~~ disruption capacity**	A remotely operated vehicle is a remote-controlled robot that forms part of the improvised explosive device disposal team equipment. It is not a vehicle in the common sense and, as such, does not incur costs related to insurance, plates, painting, etc. Just like UAV are not considered vehicles but equipment, ROV should be treated in the same manner. All ROV currently deployed have a disruptor capability. This change serves to reinforce the importance of remote disruption capabilities for EOD personnel in the field to meet the EOD principles outlined in UN doctrine.
	Delete: **Mine-resistant ambush-protected vehicles with armoured cabin explosive ordnance disposal/improvised explosive device disposal team truck vehicle**	See the two recommendations above. Should these be followed, there is no need for a category with a single item that would also fit in other categories. EOD provides a force enabling capability similar to ambulances and should be treated similar:

		As an APC, the EOD team vehicle is essentially an infantry carrier/ with fixtures for equipment instead of seating. Therefore, the APC infantry carrier calculations should be applied. As a truck, the EOD team vehicle may be selected from the military-pattern support vehicles.
	Delete category: **Demining, vehicles for the disposal of explosive ordnance and improvised explosive devices**	If the previous three proposals are accepted, this category is obsolete
Footnotes to Chapter 8 Annex A, page 201/281	Change footnote f to read: **Demining equipment and equipment for the disposal of explosive ordnance/improvised explosive devices should perform in compliance with the International Mine Action Standards.**	Technical edit for clarity

4. FINANCIAL IMPLICATIONS

No financial implications are expected.

5. PROPOSED 2026 COE MANUAL TEXT

Chapter 2, Annex A, Paragraph 7, Page 12/281 of the COE Manual, add the text in bold and remove the text in bold with a strikethrough. Include a new footnote and align numbering on all subsequent footnotes.

7. Explosive ordnance disposal **(EOD)**: ~~**The process of detection, identification, onsite evaluation, rendering safe, recovery and final disposal of unexploded ammunition.**~~ **This term includes the procedures of detection, location, access, identification, evaluation, hazard mitigation, render safe, recording and recovery, and final disposal of explosive ordnance or any hazardous material associated with an EOD incident. Explosive ordnance disposal is the overarching term for conventional munitions disposal and improvised explosive device disposal. Conventional munitions disposal (CMD) refers to any EOD operation conducted on ammunition that is used as a conventional weapon. Improvised explosive device disposal (IEDD) refers to the EOD procedures, intended to result in the final neutralization of an IED. ~~It~~ Explosive ordnance disposal** is conducted on behalf of the mission by a specialist unit as a force asset. Force operations to dispose of explosive ordnance may conduct activities in all or part of the mission area. They may also include ammunition that has become hazardous as a result of damage or deterioration.[3] In the context of self-sustainment, explosive ordnance disposal means such disposal conducted by a unit within its accommodation or camp area.[4]

Footnotes

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[3] ~~**Implementation/experience-based definition developed by the Office of Mission Support (previously the Field Administration and Logistics Division).**~~ **United Nations Peacekeeping Missions Military Explosive Ordnance Disposal (EOD) Unit Manual 3rd Edition 2024.**

[4] A/C.5/52/39, para. 82 (a).

Chapter 8, Annex A, include a new category of equipment, add the text in bold and remove the text in bold with a strikethrough.

Annex A

Reimbursement rates for major equipment under a wet lease or dry lease arrangement

(United States dollars)

Category of equipment	*Type of equipment*	*Generic fair market value*	*Estimated useful life in years*	*Maintenance rate*	*Monthly dry lease rate*	*Monthly wet lease rate*	*No-fault incident factor (percentage)*	*Monthly non-United Nations POL*	*Painting rate*	*Repainting rate*
Miscellaneous communications equipment	~~**Radio frequency inhibitors/cell phone jammer (portable/man pack) (set of 3)**~~[e]	~~**1 524**~~	~~**7**~~	~~**10**~~	~~**18**~~	~~**29**~~	~~**0.2**~~			
	~~**Radio frequency inhibitors/cell phone jammer (vehicle-mounted)**~~[e]	~~**1 016**~~	~~**7**~~	~~**18**~~	~~**12**~~	~~**30**~~	~~**0.2**~~			
Demining **and**~~**,**~~ explosive ordnance ~~**and improvised explosive device**~~ disposal equipment[f]	~~**Man-portable high-power electronic countermeasure (cell/GPS/jammer)**~~[e]	~~**38 698**~~	~~**7**~~	~~**6**~~	~~**464**~~	~~**470**~~	~~**0.1**~~			
	~~**Vehicle-mounted electronic countermeasure (jammer) against remotely activated improvised explosive devices**~~[e]	~~**122 252**~~	~~**7**~~	~~**1 382**~~	~~**1 466**~~	~~**2 848**~~	~~**0.1**~~			
	Portable digital X-ray ~~**s**~~**S**ystem, including **x-ray generator, detector plate, analysis unit, and** 2 personal dosimeters (with capability to read exposure levels)~~**, for use with for disposal of explosive ordnance**~~[c]	6 907	5	223	116	339	0.1			
	Explosive ordnance disposal suit, heavy (minimum V50 rating of 1,**800** ~~**600**~~ for the chest and groin)[w]	10 987	5	109	184	293	0.1			
	Demining~~**/explosive ordnance disposal**~~ personal protection **equipment** for the disposal of explosive ordnance~~**/improvised explosive devices**~~ (set)[p, x]									
	~~**Protective apron/trousers**~~	~~**697**~~	~~**3**~~	~~**6**~~	~~**19**~~	~~**26**~~	~~**0.1**~~			
	Protective ~~**helmet and**~~ visor	217	2	17	9	26	0.1			
	~~**Protective shoes**~~	~~**518**~~	~~**2**~~	~~**6**~~	~~**22**~~	~~**28**~~	~~**0.1**~~			

Category of equipment	*Type of equipment*	*Generic fair market value*	*Estimated useful life in years*	*Maintenance rate*	*Monthly dry lease rate*	*Monthly wet lease rate*	*No-fault incident factor (percentage)*	*Monthly non-United Nations POL*	*Painting rate*	*Repainting rate*
	Protective **apron**/vest/jacket	~~**696**~~ **697**	3	6	~~**19**~~ **20**	26	0.1			
	Reinforced gloves (pair)	150	2	2	6	8	0.1			
	Set total	~~**2 279**~~ **1 064**	2	~~**38**~~ **25**	~~**76**~~ **35**	~~**114**~~ **60**	0.1			
	Protective trousers	**697**	**3**	**6**	~~**19**~~ **20**	**26**	**0.1**			
	Protective shoes	**518**	**2**	**6**	**22**	**28**	**0.1**			
	~~**Demining explosive ordnance disposal (e**~~Conventional ~~**am**~~munition**s** disposal toolkit~~)~~ (set)[c]									
	Explosive ordnance disposal disrupter	3 910	2	6	163	169	0.1			
	Explosive ordnance disposal operator toolkit	3 865	2	10	161	172	0.1			
	Explosive storage/detonator box	1 073	2	6	45	51	0.1			
	~~**Firing cables (300 m)**~~	~~**752**~~	~~**2**~~	~~**6**~~	~~**31**~~	~~**37**~~	~~**0.1**~~			
	Firing system to initiate disruptors/charges	~~**3 555**~~ **4 307**	2	~~**6**~~ **12**	~~**148**~~ **179**	~~**155**~~–**192**	0.1			
	Hook and line toolkit for explosive ordnance disposal	73	2	7	3	10	0.1			
	Set total	13 227	2	42	552	594	0.1			
	Improvised explosive device disposal toolkit (add-on to conventional ~~**am**~~munition**s** disposal toolkit) (set)									
	~~**Non-linear junction detector**~~	~~**8 126**~~	~~**5**~~	~~**81**~~	~~**136**~~	~~**217**~~	~~**0.1**~~			
	~~**Personal dosimeters (with capability to read exposure levels)**~~	~~**609**~~	~~**5**~~	~~**20**~~	~~**10**~~	~~**31**~~	~~**0.1**~~			
	Remotely operated vehicle with observation and/~~or~~ disruption capacity[c,u]	**92 932**	**10**	**1 016**	**782**	**1 798**	**0.1**	**150**		
~~**Demining, vehicles for the disposal of explosive ordnance**~~	~~**Remote-control mine-clearance tracked vehicle**~~[e]	~~**599 121**~~	~~**20**~~	~~**431**~~	~~**2 546**~~	~~**2 977**~~	~~**0.1**~~	~~**250**~~	~~**891**~~	~~**1 012**~~
	~~**Mine-resistant ambush-protected vehicles with armoured cabin explosive ordnance**~~	~~**797 396**~~	~~**15**~~	~~**3 826**~~	~~**4 496**~~	~~**8 323**~~	~~**0.1**~~	~~**450**~~	~~**891**~~	~~**1 012**~~

Category of equipment	*Type of equipment*	*Generic fair market value*	*Estimated useful life in years*	*Maintenance rate*	*Monthly dry lease rate*	*Monthly wet lease rate*	*No-fault incident factor (percentage)*	*Monthly non-United Nations POL*	*Painting rate*	*Repainting rate*
~~**and improvised explosive devices**~~	~~**disposal/improvised explosive device disposal team truck vehicle**[e]~~									
	~~**Remotely operated vehicle with observation and/or disruption capacity**[e,#]~~	~~**92 932**~~	~~**10**~~	~~**1 016**~~	~~**782**~~	~~**1 798**~~	~~**0.1**~~	~~**150**~~		
Electronic countermeasures equipment	**Portable high-power electronic countermeasure (cell/GPS/jammer)**[c]	**38 698**	**7**	**6**	**464**	**470**	**0.1**			
	Vehicle-mounted electronic countermeasure (jammer) against remotely activated improvised explosive devices[c]	**122 252**	**7**	**1 382**	**1 466**	**2 848**	**0.1**			
	Radio frequency inhibitors/cell phone jammer (portable/man pack) (set of 3)[c]	**1 524**	**7**	**10**	**18**	**29**	**0.2**			
	Radio frequency inhibitors/cell phone jammer (vehicle-mounted)[c]	**1 016**	**7**	**18**	**12**	**30**	**0.2**			

Chapter 8, annex A, include two new footnotes in bold text and align numbering on all subsequent footnotes. Technical edit to footnote [f].

(Footnotes to annex A)

[c] New major equipment approved as a result of the 2017 Working Group on Contingent-Owned Equipment.

[f] Demining **equipment** and equipment for the disposal of explosive ordnance/improvised explosive devices should perform in compliance with the International Mine Action Standards.

[p] Taking into consideration the physiological differences between men and women personnel, including size.

[u] A remotely operated vehicle is a remote-controlled robot that forms part of the explosive ordnance disposal/improvised explosive device disposal team equipment. It is not a vehicle in the common sense and, as such, does not incur costs related to insurance, plates, painting, etc.

[w] Certified by NIJ 00117.01, STANAG 2920, GOST 34286-2017 or other equivalent standard.

[x] The minimum requirement according to International Mine Action Standard 10.30 is a full-face visor and upper body protection.