

RISK ASSESSMENT DURING IMPLEMENTATION OF EXERCISES WITH MINE EXPLOSIVE ORDNANCE

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Abstract: *The paper investigates the importance and application of training soldiers with mine and explosive ordnance in order to reduce and manage risk. The army uses mine explosive ordnance to realistically simulate combat, with the aim of achieving a higher level of operability and reducing the risk to life. The training of soldiers in the placement and removal of mine explosive ordnance plays a key role in preparing members of the military for various military operations and tasks. Through the analysis, this paper concludes that the training of soldiers with mine and explosive ordnance has a significant potential to improve the ability and efficiency of the military in specific tasks. It also indicates the necessity of applying all available measures to reduce the degree of risk in working with mine and explosive ordnance.*

Key words: *mine and explosive ordnance, training, security measures*

1. INTRODUCTION

In the modern world where minefields, improvised explosive devices and similar dangers are a threat, training soldiers in the safe placement and removal of mine and explosive ordnance is a necessary and extremely challenging task in order to prevent and reduce losses and injuries.

The training of soldiers contributes to reducing the risk and increasing the efficiency of military operations, thus protecting the lives of soldiers and ensuring the achievement of military objectives.

The aim of the paper is to contribute to the understanding of the existence of risks when using mine explosives and explore the possibility of improving risk prevention in this area, thus ensuring that the training of soldiers is effective and safe.

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2. THE TERM AND DEFINITION OF RISK

The concept of risk presents the combination of probability that a disaster will occur in a certain period of time and certain negative consequences. (Law on Disaster Risk Reduction and Emergency Management („Official Gazette of RS” No. 87/2018)).

Risk is an occurrence or situation that carries potential danger, harm or unwanted consequences. Risk can be present in various spheres of life, including health, investments, business and many other areas (Risk management and risk assessment methods, Prof. Dr. Aleksandra Kocic Arsic).

For the purpose of easier definition of risk, the following components can be used:

1. Identifying the potential hazard: Identifying the risk situation is a key element from which loss or damage can be derived.
2. Probability assessment: Assessing the likelihood of the risk occurring and the severity of the consequences.
3. Risk management: It involves the steps taken to reduce the consequence, this may include preventive measures, risk transversal or acceptance with awareness of the consequences.
4. Monitoring and auditing: Risk often changes over time, so it is important to monitor and reassess it to adapt risk management strategies.

Risk management is crucial in order to reduce potential damages and achieve the best possible success in various aspects of life and business.

In the military as in other organizations, there are different types of risks that can occur. The risks differ from the specific circumstances and engagement of the army on different tasks, and can vary from the loss of human life, disease, the risk of occupying territories during military conflicts, terrorist attacks, sabotage, espionage and other.

In the military, risk management is a key component of protecting resources (human lives and material assets), successfully completing tasks. The military, through strategies, invests significant efforts to ensure that risks are identified, minimized and managed in the best possible way in order to ensure the safety and efficiency of operations. For the purposes of the work, attention is focused on the risk associated with the implementation of exercises with combat mine and explosive ordnance.

3. TYPES OF EXERCISES WITH MINE AND EXPLOSIVE ORDNANCE

An important segment for the successful execution of various tasks of the military is the training of personnel for the execution of various tasks in combat operations. One of those tasks is working with mine and explosive ordnance (hereinafter: MEO). In order to ensure safe and secure work, it is necessary to train personnel in working with explosive mine explosives. The training is carried out by conducting exercises with mine and explosive ordnance.

Exercises with combat MEO are the most complex and highest form of training for soldiers, units and officers in handling explosives and means of activation when demolishing, creating and overcoming mine-explosive obstacles, using those means in exercises, when performing work on the organization of the territory and other tasks. (Instructions and training programs with MEO, 1995: point 6).

Exercises with MEO can be: demonstrations, exercises of individuals, exercises of units and experimental exercises. (Instructions and training programs with MEO, 1995: point 7).

The aim of the exercises is: to train personnel (soldiers, students) and units in the professional, safe and secure handling of activation and explosive substances during the demolition of elements and materials, in the creation and overcoming of mine explosive obstacles, with full compliance with the prescribed occupational safety measure when handling MEO. (Instructions and training programs with MEO, 1995: point 4).

Demonstration exercises with MEO represent the first meeting of personnel and units with these assets, which is why it is necessary to pay maximum attention to the preparation and execution of these exercises, especially measures to protect personnel and material assets. During the implementation of these exercises, attention is directed to the regularity of the work, the methodology of execution, as well as the presentation of the organization of the work during the realization of the exercise itself.

Exercises of individuals in handling MEO are carried out only after the soldiers and elders are well trained and practiced in handling the training equipment. Special attention is paid to safety measures at work when performing exercises.

Exercises of individuals in handling MEO are carried out with soldiers and elders and can be performed:

- Exercises where devices are used for detonating cord method of activating an explosive charge. This exercise is initial and carries the least risk of unwanted consequences.
- Exercises with the use of devices for the electric way of activating the explosive charge, a new level when performing the exercise, which causes an increase in the risk of unwanted consequences when performing such exercises.
- Exercises where the placement of combat anti-personnel and anti-tank mines is carried out. Such exercises require increased attention because the sensitivity during operation to the activation of certain mines is minimal.



Picture 1. Placement of an anti-tank mine

Source: Personal archive

Exercises of units with MEO include group, division, platoon, and company exercises. For the successful training of units, the previous good training of the individual in handling MEO is of crucial importance. The realization of these exercises represents the highest level of unit training in the use and activation of MEO.

Test exercises with battle MES are organized independently or as part of tactical and joint exercises in real conditions.

4. RISKS WHEN PERFORMING EXERCISES WITH MINE AND EXPLOSIVE ORDNANCE

Carrying out exercises with MEO in the military is a complex activity that holds significant risk. The risk when conducting exercises with MEO is reflected in the existence of a danger of serious consequences for the safety of soldiers and affecting the successful execution of the exercise.

The biggest risk relates to the safety of people's lives. Humanity is exposed to the risk of death or injuries that can cause amputations, burns, head injuries and more. In addition to the lives of soldiers, a great risk is also the possibility of damage to military equipment, vehicles or infrastructure, which can create unforeseen costs for repair or replacement.

Mistakes, which lead to risk, can also occur due to the carelessness of soldiers when using explosives or setting mines. Potential errors occur due to insufficient training that contributes to a good recognition of mine and explosive ordnance and how to use them. The risk arises if the soldiers were exposed to increased physical effort before the implementation of the exercises with MEO, so in those cases, those soldiers are prohibited from working with MEO. The appearance of high self-confidence can lead to reduced attention or skipping certain steps of the procedure in working with MEO and thus lead to risk. After a certain amount of time and working with the same means, soldiers develop "false confidence" (reflected in "excellent training for working with MEO") and curiosity for experimenting with MEO, which certainly leads to a dangerous situation. Experience and mentoring by professionals is an important decisive factor in how to react in a given situation.

When working with MEO, soldiers are under a lot of stress, which can affect their mental and emotional stability, but also their decision-making at the right time.

Atmospheric forces, the sudden appearance of animals or faulty equipment can also have a negative impact on exercise.

If injuries occur during exercises with MEO, it can have reputational consequences for the unit that implements them or for the entire military.

In order to act in the direction of risk reduction, the military implements a series of measures such as enhanced training of soldiers, controlled circumstances for the implementation of exercises, control and supervision during the use of MEO, as well as prescribed procedures on how to react in critical situations. It is of great importance to analyze each soldier separately, his capabilities and ways of reacting in a crisis situation, all with the aim of raising risk management to the highest level.

5. REDUCING RISKS OF THE IMPLEMENTATION OF EXERCISES WITH MEO

Reducing the risk of military operations is a constant challenge. By adopting optimal solutions and timely action on every form of unwanted consequence, the risk can be controlled or reduced.

In order to reduce and eliminate the possibility of risk, military organizations have prescribed procedures that contain measures to be taken: before exercises, during exercises and after exercises have been completed. In preparation for the implementation of exercises with MEO, the military plans and implements adequate training with training equipment, training each

individual to the prescribed standards that guarantee the recognition, handling, safe installation and removal of MEO. Identification of potential risks related to the exercise, the means of use and the terrain on which it is performed, should be an integral part of the preparation for the exercise. Based on that identification, safe zones and procedures for providing first aid and evacuation in case of injuries should be determined. Ensure that all participants in the implementation of the exercise understand their roles and responsibilities regarding safety during the exercise. It is important to inform the public about the time and place of the exercise with MEO and provide instructions on safe behavior.

During the implementation of the exercise with MEO, it should be ensured that the places where the MEO is installed are precisely determined and organized according to valid instructions, so that there are no unforeseen intrusions by other persons. It is forbidden to arbitrarily choose and determine the place where the contents of the training with MEO will be implemented. The obligation of the institution and the unit is to carry out a safety assessment for the specific area where the exercise is carried out. It must also define which exercises and with what amount of explosives can be carried out on that training ground. During the exercise, the soldiers must follow the instructions of the person in charge of their safety without question. The equipment used must be controlled and checked to guarantee its correctness. Exercises should be controlled by experts who can predict and react quickly in case of recognition of any risk. Clear communication and good cooperation of all exercise participants is a guaranteed success.

Reducing the risk after implementation of the exercise with MEO is also an important part of the overall process that guarantees the safety of soldiers and the environment. After the end of the exercise, a detailed inspection of the terrain should be carried out and it should be determined that there are no remaining MEO, in addition, all dangerous materials should be removed in order to ensure the safety of people who will move in that area after the exercise. Perform a detailed analysis of the exercise and, after identifying potential training deficiencies, take appropriate steps to prevent similar problems in the future. Continue with periodic training of all participants of the exercise so that procedures and procedures are not forgotten and thus increase the risk.

Soldier safety should be a priority at all stages of the exercise to minimize the risk of injuries and incidents.

All soldiers participating in exercises with MEO must be aware of the risks and responsibilities they bear during such exercises.

6. CONCLUSION

Training soldiers to deploy and remove MEO includes developing tactical thinking, teamwork and safety. Trained soldiers are able to effectively identify, handle and neutralize mine and explosive ordnance, which significantly reduces the risk to the lives of soldiers and the environment. Soldier training must be adapted to reduce risk and respond to new assets in the MEO domain. In addition, effective training allows soldiers to maintain a high level of capability and perform tasks with greater success.

Training soldiers with MEO is essential for the safety and effectiveness of all military operations. Constant improvement of training, adaptation to new threats are key steps towards the safety of soldiers' lives and the reduction of the risks associated with working with mines and explosive devices.

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