

UTILIZATION OF THE TERRITORIAL DEFENCE FORCES IN RESCUE OPERATIONS PART 1

Marek PYTEL*, Mariusz CIEŚLA**

* Faculty of Security Studies, General Tadeusz Kościuszko Military Academy of Land Forces in Wrocław
e-mail: marek.pytel@awl.edu.pl
e-mail: mariusz.ciesla@awl.edu.pl

Received on 17th July; accepted after revision in August 2017

Copyright © 2017 by Zeszyty Naukowe WSOWL



Summary:

The authors attempt to present in the article the courses of action of the Territorial Defence Forces' subunits in the conditions requiring the support of state and territorial administrations when life of residents is jeopardized as a result of catastrophes and natural disasters. This is one of the key tasks faced by the newly established Territorial Defence Forces (WOT) that is the protection of people and property within the activities unrelated to the kinetic impact of potential enemies.

Keywords:

territorial defence, salvage service, rescue operation, search for victims, fires, medical assistance, reconnaissance

INTRODUCTION

The newly created Territorial Defence Forces (WOT) will be responsible for the execution of tasks both in military and non-military spheres. Their involvement in rescue and evacuation operations in areas of mass destruction, natural disasters, catastrophes and failures of devices with toxic industrial agents (TŚP)¹ is among these tasks.

¹ R. Jakubczak, W. Jakubczak, Obrona narodowa w Polsce, Doctrina, Studia społeczno-polityczne, No 6, 2009, p. 117; J. Marczak, R. Jakubczak, Raport strategiczny: Siły Zbrojne RP w drugiej dekadzie XXI wieku. Koncepcja strategiczna Obrony Terytorialnej RP, AON, Warsaw 2014, p. 74; Z. Polcikiewicz, Wojska Obrony Terytorialnej w systemie bezpieczeństwa narodowego Polski, Acta Scientifica Academiae Ostroviensis. Sectio A, Nauki Humanistyczne, Społeczne i Techniczne, No 7, 2016, p. 407, 409; Zasady użycia Wojsk Obrony Terytorialnej, Bydgoszcz 2016, p. 15; Koncepcja obronna Rzeczypospolitej Polskiej, Warszawa 2017, p. 44. O współczesnych zagrożeniach niemilitarnych see: B. Boni-

The scope and the nature of these tasks cover all security situations of the state.

Their engagement in the broadly understood rescue and evacuation operations in accordance with Crisis Management Plan of the Ministry of National Defence is reasonably certain, including the participation in²:

- preventing and combating natural disasters and catastrophes;
- supporting anti-terrorist operations;
- protecting cultural properties;
- supporting non-military system in maintaining the public order;
- search and rescue operations;
- monitoring threats and assessing the likelihood of their occurrence;
- evacuating the affected population and property;
- protecting the property left in the threats' appearance area;
- isolating the area at risk or site of conducting a rescue operation;
- enabling the smooth traffic flow on communication routes.

The purpose of rescue operations conducted by the Territorial Defence Forces in areas of destruction, catastrophes or natural disasters will be provision of care to injured soldiers and civilian population, reduction of losses and damages, prevention against secondary explosions and contaminations as well as handling their aftermath³.

The scope of the works related to rescue operations in military facilities and units as well as those aimed at civilian population will depend on a type of the affected area or a character of the natural disaster, failure or catastrophe. Adequately to their capabilities, WOT units (subunits) should be prepared to⁴:

- conduct the reconnaissance of a destruction area (natural disasters, catastrophes etc.);
- provide medical assistance to affected soldiers and civilian population and prepare them for the evacuation;
- evacuate the property, damaged equipment and motor vehicles from destruction areas;

sławska, *Współczesne zagrożenia dla bezpieczeństwa publicznego (Contemporary threats to public safety – synopsis)*, Zeszyty Naukowe WSEI series: ADMINISTRACJA, 2 (1/2012), p. 113-128. The Territorial Defence Forces can relieve operational forces, which currently execute these tasks, in this type of activities. See: T. Ciszewski, *Udział Sił Zbrojnych Rzeczypospolitej w zapobieganiu oraz usuwaniu skutków zagrożeń niemilitarnych*, Zeszyty Naukowe WSOWL, No 2, 2011, p. 363-383.

² *Zasady użycia Wojsk...*, p. 25. The members of various non-government rescue organizations can serve in WOT. About their potential see: A. Morawski, *Wykorzystanie potencjału organizacji pozarządowych w procesie zarządzania kryzysowego*, Warsaw 2014.

³ S. Bożek, M. Cieśła, *Obrona Terytorialna – wybrane problemy*, Wrocław 2002, p. 130.

⁴ *Ibidem*, p. 130-131. In this case they act as the higher echelon or subordinated to the non-military system (UPM) e.g. PSP or OSP.

- cooperate with the State Fire Brigade (PSP) and Voluntary Fire Brigade (OSP) in fire-fighting efforts in military and civilian facilities;
- conduct sanitary and special treatments – in case of the use of the weapon of mass destruction (BMR) or failures (catastrophes) of facilities with TŚP.

To fulfill the above-mentioned tasks in situations in which the time will be the factor determining their efficiency, the significant resources of various specialties and the excellent coordination of the efforts is required.

The Territorial Defence Forces should be prepared to execute specific, assigned to them military tasks under all conditions of the state's functioning. Therefore, they cannot be engaged to rescue operations or undertake the activities associated with the elimination of effects of an enemy's strikes or other adverse events until they are released from the obligation to perform them.

The WOT units for eliminating the effects of an enemy's strikes (disasters, failures etc.) can detach personnel together with the equipment necessary for a rescue operation, including trained emergency and rescue groups or detach only emergency and rescue groups or few, ad hoc organized, teams of soldiers. Entire subunits, indispensable for eliminating effects of enemy strikes particularly in urban areas can be detached from Territorial Defence Brigades (Territorial Defence battalions – bOT)⁵.

The activities connected with preparation and execution of an operation will be carried out in three states: peace, a growing war threat and a war.

In the peacetime, the activities related to planning, training units within the scope of salvage service are realized and rescue operations are conducted by fully developed WOT units. During the state of a growing threat and reaching the readiness by WOT units, the capability to fulfill rescue operation increases⁶.

In a state of war, the activities directly connected with conducting rescue operations in military facilities and units as well as the support of Civil Defence (OC) formations in rescue operations carried out for civilian population will be developed⁷.

WOT units (subunits) deployed to rescue operations should mainly focus on⁸:

- direct rescuing people;
- conducting works aimed at reduction of losses and limitation of secondary effects of enemy strikes or natural disasters (failures and catastrophes).

Within the framework of the direct rescue of people, it is necessary to:

- search for and take victims out of damaged equipment, collapsed buildings and buried shelters;

⁵ Ibidem, p. 131. WOT 's engagement into rescue operations will significantly strengthen the UPM potential.

⁶ Ibidem, p. 131. They can detach rescue groups in any condition of the state security.

⁷ Ibidem, pp. 131-132.

⁸ Ibidem, p. 132. The concentration of rescue forces' efforts can be subjected to further discussion.

- provide medical assistance to victims;
- evacuate injured to victims' collection points, medical center and hospitals;
- locate and extinguish fires in areas of conducting rescue operations.

Within the works directed into limitation of secondary events it is necessary to:

- maintain order and security in the destruction area and prevent panic among soldiers and civilian population;
- conduct sanitary and special treatments;
- repair municipal appliances, especially those essential for conducting rescue operations as well as those particularly dangerous;
- ensure protection of military and civilian properties.

During rescue operations, the promptness of commencing action, their pace and coordination of activities are of decisive importance. Any delay in organizing and conducting action may firmly deteriorate and complicate the situation in an area of its execution (spreading fires, failures of devices containing toxic agents, spreading panic etc.).

A WOT unit sent to rescue operations in a military facility fulfills it in accordance with a commander's decision. In case of engaging a WOT unit in rescue operations in favor of civilian population it performs the tasks as prescribed by the competent Chief of Civilian Defence.

1. ACTIVITIES OF TERRITORIAL DEFENCE FORCES DURING A RESCUE OPERATION

Rescue operations cover organizational and preparatory activities executed by territorial command authorities at the request of a state or local administration. The WOT personnel will be used in those operations for the execution of tasks preventing and eliminating various types of local non-military threats.

In order to enable the effective functioning of services and resources participating in a rescue operation, an endangered area is divided into sectors. a part of a destructed area, on whose territory the involved forces are under a single command, is called the sector⁹.

The following methods of conducting operation can be distinguished based on the occurred situation:

- spatial;
- point.

The spatial method is carried out by rescue units in situations when the extensive area is destructed and the exact location of victims is unknown.

The point method is applied when the location of victims is known. In such a situation, the sector is divided into the rescue works objects (3-4 collapsed buildings), and they in turn into the rescue works point (a collapsed building, a shelter, etc.).

⁹ Ibidem, p. 133.

According to the tasks in the sector the following is allocated¹⁰:

- firefighting sectors and subsectors;
- sectors and subsectors of contaminated area;
- victims' collection points;
- medical assistance points;
- collection points of unemployed and slightly injured persons;
- sanitary treatment points;
- special treatment points;
- material and technical supply points;
- damaged equipment collection points.

A territorial defence battalion can constitute a basic formation during rescue operations. This unit, depending on the situation, can conduct various tasks¹¹. A sector or an object of operation is allocated to the battalion. The battalion's tasks can be assigned to its companies (platoons or groups), which simultaneously conduct order-protection tasks, search and evacuate victims. The battalion supports also the specialized civil services in removal of the ruins, protection of buildings and firefighting. The battalion is reinforced by resources from the Civil Defence for the duration of the operation. They consist in municipal, firefighting and medical measures.

Rescue groups are designated from a battalion and are composed of¹²:

- a reconnaissance team, consisting of two or three reconnaissance patrols from light infantry units;
- a pioneering team, consisting of a sapper squad and a firefighting patrol (this patrol can be manned by PSP or OSP firefighters);
- extraction-evacuation team, formed by e.g. two light infantry platoons, a municipal rescue unit and a medical squad;
- an order-evacuation team, composed of a light infantry platoon (the size of this team should be dependent on the area assigned to conduct a given task).

The reconnaissance team engages into a rescue operation in the first place. Engineers, chemists, firefighters and other specialists from Civil Defence are assigned to it. The team conducts contamination, fire and destruction reconnaissance as well as marks a contaminated area and dangerous scenes. Locating victims and searching for convenient entry routes for the rescue forces are among its main tasks. First of all, the reconnaissance team interviews survived, affected population from which the crucial infor-

¹⁰ Ibidem, pp. 133-134. These are the sections and points proposed by the authors. However, depending on the situation, the new ones can be created.

¹¹ The organizational structure and the manning of the developed Territorial Defence battalion enable designation of rescue elements, assure the possibility of working on shifts and coordination and cooperation with non-military elements of the defense system. In case the resources are not sufficient a battalion can be reinforced by additional elements detached from a Territorial Defence Brigade.

¹² Ibidem, p. 134. These teams and groups can be detached by bOT.

mation regarding the location of other victims can be obtained. During the search, when the presence of people has been detected, the scouts make the voice contact, calling: *this is the rescue team, respond* (or a different established signal). The other method of contact is hitting at elements carrying sound that are projecting from the ruins. Having established the contact, the assessment regarding the number of people trapped under the ruins is carried out and whether the risk of complete burring the victims in debris exists. The rescuers provide holes in order to deliver fresh air. All the locations searched by the reconnaissance team, in which the presence of people was noticed, are marked and the information is forwarded to the extraction-evacuation team coming into the operation.

During the execution of its tasks, this team cooperates with medical services, technical rescue and firefighting units of the Civil Defence. The rescuers perform the work in pairs at a set distance from each other and with shifts maintained. It results from the safety conditions in force during these works. After completing passages and reaching victims, the medical assistance is provided to them in the form of pro tempore dressing the wounds, afterwards they are transferred to the victim collection point. At this point the victims are sorted by the injuries incurred and transported to the medical assistance point organized based on health care facilities.

The passages and crossings for the transportation and specialized equipment are performed. The pioneering team which is to be equipped with excavators, bulldozers cranes etc. is in lead of these works¹³.

It is necessary to collaborate with the heavy equipment crews through In order to carry the work as planned¹⁴:

- coordinating locations and sequences of works;
- recognizing gateways so as to transport equipment to places of work;
- directing equipment to working places clear of victims;
- coordinating the method of using the heavy equipment as lifting devices for vertical and afterward horizontal transportation of large construction elements from the places posing the danger for people.

The traffic regulation and the support of the Police in maintaining order and safety is the task of the order-protection team. Together with the Civil Defence security services and the Police they organize blockades of the danger zone so as to prevent the civil population from returning there. Therefore, the blocking formations, the so-called cordons which are to prevent the panic among the civilian population are organized by these subunits. In order to prevent panic, it is necessary to¹⁵:

¹³ The creation of such groups will be determined by the number of Territorial Defence units' and sub-units' engineering equipment. In the case they are not equipped with such assets, the non-military system will be responsible for its delivery.

¹⁴ Ibidem, p. 135-136. These are general cooperation principles which are subjected to particularization during the operation.

¹⁵ Ibidem, p. 136. The complex problem of 'panic' is to be tackled jointly with UPM.

identify sentiments and counter any symptoms of panic;

- involve people in work to divert their attention from the aftermaths of the threat appeared;
- strive for focusing the attention of people on specific activities;
- ensure vigorous leadership to them and observe them at the same time.

All those tasks should be executed outside the main area of destruction or of its border.

Conducting a rescue operation, to a significant extent, depends on maintaining the continuity and intensity of the works, and this consists of¹⁶:

- shift work of rescue forces in the destruction area;
- rest for meals and regeneration;
- lightning the area of operation.

The shift work is organized by commanders of rescue teams or by sector commanders. If conditions preventing the withdrawal of the entire shift or rescue unit appear during an operation, individual subunits and groups are to be withdrawn, and the respite is to be organized outside the area of destruction. In this case, the heavy equipment stays on place, whereas the forces are moved to the rest zone¹⁷.

The subunits are regrouped from the directions where the situation was brought under control to the threatened areas or to interim dislocation area to regain operational readiness.

2. RECONNAISSANCE IN RESCUE OPERATIONS

Effectively functioning reconnaissance whose main task is systematic provision of information constitutes a guarantee of an appropriate course of the operation.

The reconnaissance of air strike aftermaths is aimed at gathering as much essential information as possible regarding the situation in an area of destruction, necessary for a person leading the rescue operation within the decisions related to protection of the civil population, own forces and the organization and execution of the rescue operation itself.

Due to the method of gathering information as well as the scope and type of the forces engaged, two basic kinds of the reconnaissance are distinguished¹⁸:

- general reconnaissance,
- special reconnaissance.

General reconnaissance – whose purpose is to determine the general character and the scope of damages in the destruction area, the amount of radiation, the spread of fires, routs for rescue forces and evacuation of affected people, recognition of the na-

¹⁶ Ibidem, p. 136.

¹⁷ Depending on the capabilities and the number of the groups, several rest points can be designated. Otherwise, individual groups are to be withdrawn to one area according to the pre-agreed schedule.

¹⁸ Ibidem, p. 137.

ture of the rescue works etc. All reconnaissance resources are involved in gathering the aforementioned information.

Special reconnaissance – is organized based on the data from the general reconnaissance for:

- professionally (specialized) assessment of aftermaths of the air strike identified by the general reconnaissance;
- professional determination of the scope of essential specialized rescue works, the type of effective activities, the amount and kind of necessary resources and measures, requirements in the field of interoperability etc.;
- autonomous undertaking actions at the sites, where according to the patrol commander's assessment, the situation is the most threatening.
- Therefore, a subunit capable of independent execution of specialized tasks should be deployed to conduct special reconnaissance. Due to the fact that the rescue operation in the area of destruction covers a range of activities, special reconnaissance can be carried out in terms of each of these activities, hence distinct types of special reconnaissance can be distinguished, for example¹⁹:
 - engineering-technical reconnaissance;
 - medical-sanitary reconnaissance;
 - contamination and infection reconnaissance;
 - fire reconnaissance, etc.

The engineering and technical reconnaissance is the basic type of special reconnaissance conducted by WOT. It comprises of the deliberate and strictly coordinated undertaking, carried out in order to gather, process and timely deliver to commanders and headquarters the information related to²⁰:

- area and possibilities of its use for deployment and grouping of rescue forces and resources;
- condition of roads and road objects and possibilities of crossing water obstacles in order to assure the maneuver for rescue resources;
- degree and character of damages resulting from strikes of combat assets used by an enemy or events caused by natural forces, technical failures and catastrophes;
- state of threat for civil population remaining in the area of destruction and the scope of works essential for providing them with assistance;
- deployment, quantity and state of local material resources required for rescue works.

¹⁹ Ibidem, p. 138. The reconnaissance elements can be combined, military-civilian.

²⁰ Ibidem, p. 138.

The engineering and technical reconnaissance in the Territorial Defence Forces is organized to obtain the information crucial for independent execution of tasks arising from the intended utilization of units and subunits, the character of their operations and the chain of command. While engaging reconnaissance forces, the following reconnaissance elements can be formed by WOT²¹:

- engineering-technical observation post;
- engineering-technical reconnaissance patrol;
- specialized technical reconnaissance patrol;
- specialized technical reconnaissance group.

The reconnaissance patrols and groups should also consist of CBRN scouts and medics.

Reconnaissance sections are established in WOT units and subunits for engineering and technical reconnaissance. Moreover, specialized technical reconnaissance groups and patrols can be organized on the ad hoc basis.

The composition and equipment of reconnaissance elements will be variable and dependent on²²:

- distance between the area of destruction and the deployment area;
- type of tasks;
- area and objects of the reconnaissance;
- type of the destructed area;
- season of the year and weather conditions;
- terrain conditions.

When assigning a task for the patrol the commander is obliged to specify:

- reconnaissance route, area, sector, section or object;
- time of task commencement and accomplishment;
- periods and duration of submitting reports regarding results of reconnaissance;
- sequence of the relocation of the rescue forces command post supported by reconnaissance.

In order to assure the appropriate processing of the reconnaissance data in the form of reports and specified proposals, the reconnaissance patrols and groups must be adequately equipped with²³:

- map of the terrain of operation;
- city map (municipality, military unit etc.);

²¹ Ibidem, p. 139. Not all elements are supposed to be designated concurrently.

²² Ibidem, p. 139.

²³ Ibidem, p. 140. It is the basic equipment of patrols and groups. It is supposed to be more advanced in the future.

- watch, compass, GPS, field binoculars;
- materials and tools for preparing notes and sketches;
- communication devices;
- transportation assets and other equipment, depending on the objective, type and object of reconnaissance and requirements stemming from a situation.

The engineering and technical reconnaissance is sent to the area of destruction directly after general reconnaissance, before engaging rescue forces and resources into operation. While conducting reconnaissance of the destructed area, proceeding from peripheries of a town to its center, the patrols pay significant attention to²⁴:

- reconnaissance of locations in which covered people have remained, establishment of the methods of contacting them, their conditions and the degree of the threat posed to their lives;
- reconnaissance of networks and objects of the municipality utilities, identification of places in which the failure of installations posing a threat to lives of victims occurred and localization of valves, gate valves, switches etc.;
- determination of areas and locations dangerous for the personnel conducting the rescue operation (constructions at risk of collapse, areas of contamination, unexploded air bombs, gas leakage etc.);
- reconnaissance and determination of gateways and approach routes to collapsed protective structures and buildings for the needs of rescue forces;
- determination of works for which the heavy equipment will be required (which type?);
- reconnaissance of the degree of covering streets, plazas and squares with rubbles;
- establishment of the communication and cooperation with reconnaissance subunits and other services working in the area under the reconnaissance within the scope of mutual exchange of information;
- reconnaissance of local material resources which can be exploitable for rescue works and methods and possibilities of their delivery.

In the case of recognition of failures of municipality utilities networks, which pose a threat to the trapped civil population, a patrol aims to switch off the source of threat (when it does not hamper reconnaissance activities) and reports this fact ASAP to the supervisors or the commander of the rescue works section (object). While conducting reconnaissance of gateways (approach routes) of the rescue forces, the effort should be made to select streets (sections of the streets) the least covered with the debris, without buildings threatening to collapse, where the sources of fires requiring the immediate action of the firefighting forces do not exist and those without any failures of municipality utilities networks.

²⁴ Ibidem, pp. 140-141.

The reconnaissance report should contain²⁵:

- time of identification of affected people;
- places, where victims are located, including their larger concentrations, their health conditions as well as threats to their health and lives such as e.g. the lack of air, flooding, gas leakage etc.;
- number of affected people in particular collapses;
- type of danger to the rescuers (pinnacles, overhangs,, fires, floodings etc.);
- necessity of using technical equipment during rescue operation, listing the basic equipment, place and estimated time of its usage;
- general information related to the possibility of evacuation of victims to medical assistance points, hospitals or sanitary treatment points.

CONCLUSIONS

In the article the authors attempt at presenting one of the major tasks faced by the Territorial Defence Forces that is the protection of the civil population and their property vulnerable to damage by aftermaths of catastrophes and natural disasters. WOT subunits should be prepared for the execution of the concrete, assigned to them military tasks under all conditions of the state's functioning.

WOT units designated to tackle the aftermaths of enemy strikes (disasters, failures etc.) can detach personnel together with equipment essential for a rescue operation, including trained emergency and rescue groups or detach only emergency and rescue groups or few, ad hoc organized, teams of soldiers.

REFERENCES

1. Bonisławska B., *Współczesne zagrożenia dla bezpieczeństwa publicznego (Contemporary threats to public safety – synopsis)*, [in:] "Zeszyty Naukowe WSEI" series: Administracja, 2 (1/2012), p. 113-128. The Territorial Defence Forces can relieve operational forces, which currently execute these tasks, in this type of activities.
2. Bożek S., Cieśla M., *Obrona Terytorialna – wybrane problemy*, Wrocław 2002.
3. Ciszewski T., *Udział Sił Zbrojnych Rzeczypospolitej w zapobieganiu oraz usuwaniu skutków zagrożeń niemilitarnych*, [in:] "Zeszyty Naukowe WSOWL", no. 2, 2011, p. 363-383.
4. Jakubczak R., Jakubczak W., *Obrona narodowa w Polsce*, [in:] "Doctrina, Studia społeczno-polityczne", no. 6, 2009, p. 117.
5. *Koncepcja obronna Rzeczypospolitej Polskiej*, Warszawa 2017,
6. Marczak J., Jakubczak R., *Raport strategiczny: Siły Zbrojne RP w drugiej dekadzie XXI wieku. Koncepcja strategiczna Obrony Terytorialnej RP*, AON, Warsaw 2014.

²⁵ The points of the reports are the authors' proposal.

7. Polcikiewicz Z., *Wojska Obrony Terytorialnej w systemie bezpieczeństwa narodowego Polski*.
8. Sectio A, *Acta Scientifica Academiae Ostroviensis*. [in:] "Nauki Humanistyczne, Społeczne i Techniczne", No 7, 2016, p. 407, 409.
9. *Zasady użycia Wojsk Obrony Terytorialnej*, Bydgoszcz 2016, p. 15.

BIOGRAPHICAL NOTES

CIEŚLA Mariusz – Maj. (Ret.) Ph.D. in the discipline of the history in the military history field. The chairman of the Lower Silesian Association of Friends of Colors and Arms. In the past, the research and didactic worker at the WSOWL dealing with the Territorial Defence. The author of publications, among others: 'The Territorial Defence Forces in irregular operations', 'Combat and logistic support of irregular operations', 'Territorial Defence – selected aspects', 'Defense of territorial units in urbanized area'. Currently, the head of the Military Museum, the department of the City Museum in Wrocław and the research and didactic worker at the Institute of Social Sciences and Security of the Jan Długosz Academy in Częstochowa. The co-author of the handbook: 'Education for Safety for secondary schools'.

PYTEL Marek – Col. Ph.D. in military sciences in the discipline of art of war. In the past, the research and didactic worker at the WSOWL, dealing with the issues related to: military strategies of foreign states, operations and operational techniques of the Polish Armed Forces, the tactics of uniformed public services and the fight against contemporary terrorism and asymmetric threats. The author of publications, among others: 'Organization and functioning of the Territorial Reconnaissance System in the province', 'Utilization of the helicopter-borne assault in joint operations', 'Platoon (squad) in airborne operations', 'Use of the Army Air Forces in the mechanized and armored operations', 'Communication network in the aspect of military and non-military threats', 'Role and tasks of the Polish Armed Forces in the context of changes in the international arena'. Currently, the Vice-Chancellor for military issues at the Military University of Land Forces.

HOW TO CITE THIS PAPER

Pytel M., Cieśła M., (2017) – Utilization of the territorial defence forces In rescue operations Part 1. *Zeszyty Naukowe Wyższa Szkoła Oficerska Wojsk Lądowych im. gen. Tadeusza Kościuszki Journal of Science of the gen. Tadeusz Kosciuszko Military Academy of Land Forces*, 49 (4), p. 156-167, DOI: 10.5604/01.3001.0010.7225



This work is licensed under the Creative Commons Attribution International License (CC BY).
<http://creativecommons.org/licenses/by/4.0/>