

Faculty of Business Studies and Law
“Union - Nikola Tesla” University, Belgrade, Republic of Serbia

**INTERNATIONAL JOURNAL OF ECONOMICS
AND LAW**

Volume 14, No. 40
April 2024

Belgrade, Republic of Serbia, 2024

Published by:

Faculty of Business Studies and Law, Belgrade, Republic of Serbia, 3 times a year

For publisher:

Milan Radosavljević

Dean of the Faculty of Business Studies and Law, "Union – Nikola Tesla" University,
Belgrade, Republic of Serbia

Editor-in-chief:

Života Radosavljević

Deputy Editor-in-Chief

Milan Radosavljević

Chairman of Editorial Board

Olja Arsenijević

Secretariat:

Vladana Lilić

Technical editor:

Dušan Stamenović

Front page design:

Milan Jakovljević

ISSN 2683-3409 (Online)

Editorial office and administration:

Faculty of Business Studies and Law
Jurija Gagarina 149a, Belgrade, Republic of Serbia

Tel: +381 (11) 31 31 246

Website: www.economicsandlaw.org

e-mail: economicsandlaw@fbsp.edu.rs

Since July 2017, the magazine is present in ERIH PLUS and HEINONLINE bases.
Pursuant to Article 14 of the Rulebook on Categorization and Ranking of Scientific Journals,
the International Journal of Economics and Law is in category M23.

CONTENT

INTERNATIONAL EDITING COMMITTEE	3
EDITORIAL BOARD.....	5
FOREWORD.....	7
ORGANIZATIONAL AND MANAGEMENT STRUCTURE IN CENTERS FOR SOCIAL WORK: CASE STUDY - CITY CENTER FOR SOCIAL WORK BELGRADE	11
Mile Draganović Saša Stepanović Aleksandra Brakus	
LEGAL CHARACTERISTICS OF THE RESTRUCTURING PROCEDURE IN THE REPUBLIC OF SRPSKA	23
Sladjana Kosmajac	
THE EFFECTS OF INTERNATIONAL FINANCIAL POTENTIAL ON THE ECONOMIC ACTIVITY OF SERBIA.....	33
Branka Marković Đuro Krčić Dragan Milošević	
ORGANIZED CRIME AS A SECURITY THREAT.....	53
Anđela Mitrović Bozidar Forca	
NATIONAL INTERESTS OF THE REPUBLIC OF SERBIA AND ACCESSION NEGOTIATIONS WITH THE EUROPEAN UNION.....	65
Ivana Pešić Goran Župac	

ANALYSIS AS AN EXECUTIVE FUNCTION OF THE INTELLIGENCE-LED POLICING IN THE REPUBLIC OF SERBIA	81
Ilija Racić Siniša Dostić Kristijan Šebešćan	
NUCLEAR SECURITY RISKS AND CIVIL DEFENSE	93
Stevan Stojanović Ratomir D. Antonović	
WITNESS AS PARTICIPANT IN THE CRIMINAL PROCEEDINGS.....	105
Enio Mateo Totić	
THREE-PRONGED INTEGRATED MODEL OF THE CAUSAL INTERPRETATION OF SUSTAINABLE BUSINESS DEVELOPMENT.....	117
Milan Vemić Predrag Dedeić	
INTELLIGENCE SERVICES, OPERATIONS AND INTERESTS (the example of Serbia).....	131
Jovo Vučković	

Received:

Accepted:

Corresponding author:

NUCLEAR SECURITY RISKS AND CIVIL DEFENSE

Stevan Stojanović

Faculty of Business Studies and Law, „Union - Nikola Tesla“ University, Belgrade,
Republic of Serbia, e-mail: stevan.stojanovic@fpp.edu.rs

Ratomir D. Antonović

Institute for Serbian Culture Pristina - Leposavić, Republic of Serbia, e-mail:
antonovicr@gmail.com

Abstract: *The danger of nuclear attacks and warfare with the use of nuclear weapons is increasingly present. Fears of nuclear attacks and nuclear wars have been fueled by the conflict that has been raging for a long time in the territory of Ukraine, where the use of nuclear weapons has been speculated since the beginning of the conflict. In the paper itself, the subject of the author's interest is the action of civil defense in case of nuclear conflicts and dangers. The essential question is whether the harmful consequences of nuclear action can be reduced. In order to give the most precise answer to this question, one must start from several important components of the attack itself, namely the question of its scope, the question of the aim of the attack, the question of the place where the nuclear attack took place, what the weather conditions are like at the time of the attack and immediately after him, paying special attention to the strength of the wind and the direction of its movement. In the end, the important question is whether the attacked party has time for a warning.*

During preventive action, potential moments and locations of nuclear weapons attacks must be calculated. The calculations are called scenarios and their goal is to predict the possibility of an attack, but also the possibility of defending against an attack. Scenarios must be created realistically, with maximum respect for all objective and subjective factors. Unfortunately, this is not the case in practice. Scenarios are almost always created on the basis of assumptions, unnecessary drama is accentuated, political and propaganda platitudes are used, which ultimately results in the creation of unusable scenarios.

As an example of a sensationalist prediction of a possible nuclear attack, the well-known example of the so-called attacks on Trafalgar Square in London. If one had thought a little

better, it would have been clear to everyone that Trafalgar Square could not be a realistic target of a nuclear attack. Also, the form of manipulation of nuclear attacks is the justification of unilateral attacks on the nuclear facilities of countries that have and are developing nuclear weapons. At the same time, the targets of the attack are not chosen based on realistic parameters, but to justify the value of the set assumption.

In order to avoid these malicious mistakes, one must start from realistic knowledge about the beliefs, intentions and military potential of a potential attacker. This knowledge must be incorporated into the assessment of attack types and attack locations.

Keywords: *civil defense, nuclear weapons, attack, radiation, protection.*

INTRODUCTION

The concept of nuclear risks and accidents appears very often, and one gets the impression that the world public is becoming more and more burdened by nuclear risks. Nuclear risk should first be understood as nuclear explosions, which occur due to the rapid release of an uncontrolled nuclear reaction, which can be either nuclear fusion or nuclear fission or can occur as a combination of them.

For the first time, the world learned about the use of nuclear weapons during World War II, when America attacked Japan with this type of weapon. The attack on the Japanese cities of Hiroshima and Nagasaki took place in August 1945, forcing Japan to capitulate. On that occasion, as a result of the use of nuclear weapons, around 129,000 Japanese people died, but the most terrible consequences occurred in the later period, as a result of the direct consequences of extremely high radiation. The radiation and other dangerous consequences of this attack are felt even today, regardless of the long period of time that has passed since the attack (Jačović, 2021: 14).

The first atomic bomb that was dropped on the Japanese city of Hiroshima was called "Little Boy". It was fired on August 6, 1945 and was based on uranium with a destructive power of 15-16 kilotons of TNT. The bomb was cylindrical in shape, 305 cm long, 71 cm in diameter, and weighed about four tons. It was filled with 60 kilograms of uranium. The atomic bomb was carried by B-29 planes and dropped from an altitude of 10 thousand kilometers. The detonation occurred 500 meters from the ground, which achieved the maximum effect.

During the attack on the Japanese city of Nagasaki, a nuclear bomb with the cute name "Fat Man" was used. It was fired on August 9, 1945, and in terms of its strength, it was stronger than "Little Boy", because it had between 21 and 25 kilotons of TNT, and the detonation occurred 500 meters from the ground. It was egg-shaped, 235 cm long, 153 cm in diameter, and weighed 4,650 kilograms. It was based on plutonium. Nagasaki was accidentally targeted, as the original target was the city of Kokura, which could not be attacked due to heavy cloud cover, so Nagasaki was an alternative target.

Analyzes and research conducted 75 years after the nuclear attack on Hiroshima and Nagasaki indicate the still present consequences of that attack. Among the population of

these two cities, the fear of new nuclear attacks is still dominant. Today, the mention of nuclear weapons triggers an avalanche of various secret projects financed by the USA, Russia, Britain, Germany, Iran and other powers that are considered nuclear powers because they have nuclear weapons (Bubnjević, 2023: 126).

Also, breakdowns of nuclear power plants caused significant nuclear risks in peacetime circumstances. The accident in Chernobyl in Ukraine, which happened in 1986, is considered one of the most serious in recent times. At the moment, around thirty people died, with millions of dollars in material damage. According to rough estimates, around four thousand people died as a result of the radiation in the later period. They mostly fell ill with cancerous diseases, which arose as a result of prolonged exposure to radioactive radiation. Radioactive rain fell from the radioactive clouds, which affected the entire region and not only Ukraine, but also Belarus and Russia (Lazić, 2011: 199).

Between 1952 and 2009, there were 99 nuclear accidents in the world. Among the more significant accidents, we should single out the accident from 1957, which occurred as a result of a fire near a British atomic bomb projectile in the town of Sellafield, then the accident from 1961, caused by the explosion of the SL-1 prototype at the National Reactor Testing Station in Idaho, USA. In Michigan, USA, in 1966, the core of the Fermi 1 reactor at the Enrico Fermi nuclear reactor melted down. In Switzerland, in 1969, there was an accident at the Lucens reactor due to a loss of cooling that led to a partial meltdown of the core and massive radioactive contamination. In Russia, in 1975, a nuclear accident occurred in Leningrad due to a meltdown at reactor one. In 1975, there was an electrical failure caused by a fire in East Germany, and in the following year, in 1976, there was a failure of the ground rods in Czechoslovakia. Also, in Czechoslovakia in 1977, there was another nuclear accident due to corrosion on the reactor, which caused the leakage of radioactive materials. There were four consecutive nuclear accidents in the USA in 1979, 1984, 1985 and 1986. The following year, in 1986, the already mentioned Chernobyl accident occurred. The next three nuclear accidents in 1987, when there were even two accidents in 1989, took place on the territory of the USA. An accident occurred at the nuclear power plant in Leningrad in 1992 due to the release of radioactive gas and iodine. During 1996, two nuclear accidents occurred in the USA. In Japan, a nuclear accident happened in 1999, as well as in 2011. In the USA, the last recorded nuclear accident occurred in 2002 (Mateša, 2022: 10).

CIVIL DEFENSE AND NUCLEAR EXPLOSIONS

The question of the action of civil protection in the case of nuclear explosions concerns the handling of the relationship between the person and the object of protection and the point where the explosion occurred. Greater distance from the explosion point increases the possibilities of adequate protection from the consequences of a nuclear explosion. This achieves the effect of better isolation, which is created by natural and other obstacles in the form of solid substances standing in the way between the point of explosion and the

protective object. Precisely for this purpose, shelters are built from very solid materials, because it is believed that the stronger and better the material is, the less the consequences of a nuclear explosion can be. In the world, the British “Anderson” shelters proved to be the most effective, which are believed to be able to mitigate the attack of the strength of the nuclear explosions in Hiroshima and Nagasaki.

Fears of nuclear attacks in the second half of the 20th century led to the expansion of the creation of nuclear shelters. In connection with these trends, in the USA, in Las Vegas, the most luxurious nuclear shelter was built in 1978. At first glance, the two-story house, which did not stand out from its surroundings in any way, had eight meters in the depth of the chamber, in which there were luxurious rooms for living, and in addition to this standard equipment, the underground floors had swimming pools, saunas, gymnasiums, fountains, waterfalls and even a fake courtyard with fake flowers, trees and other ornamental plants. The designer of this luxury nuclear shelter was Brown Henderson, who predicted that the Russian-American cold war would end with the use of nuclear weapons, which would end particularly badly for the US. That’s exactly why he made such a luxurious shelter, to protect himself and his loved ones from the consequences of a nuclear explosion.

Civil protection in the context of dealing with nuclear explosions has the role of a protective factor. Also important here is the question of the construction of materials used to build residential and other buildings. In order to protect against nuclear explosions, the most resistant materials and the most modern techniques are used during housing construction. The radioactive protection factor represents the level of the object’s resistance to radiation. For example, buildings with a protection factor of 10 or higher can withstand very high levels of radiation from a nuclear explosion. Special nuclear shelters have a protection factor of over a thousand. The possibility of human survival and survival in a facility after a nuclear explosion is measured based on the protection factor. The higher it is, the chances of successfully surviving a nuclear strike are greater (Weil, 1991: 41).

The energy of one nuclear explosion that occurred in Japan in 1945 was 20 megatons. The second bomb that was dropped on Nagasaki was a thousand times more powerful. In the event of an explosion of a nuclear bomb that would be a thousand times more powerful than the bomb dropped on Nagasaki, there would be a multimegaton explosion, with an almost impossible possibility of protecting people from its consequences. The destructive effects of nuclear bombs increase in direct proportion to the destructive energy. The explosion of a high-powered nuclear bomb on the earth’s surface can cause the destruction of the most perfect nuclear shelter that is absolutely protected. The role of shelters is to reduce the radius of total destruction, but not to fully mitigate the possible consequences.

The good design of the nuclear shelter is extremely important. Special care should be taken to ensure that the shelter is not filled with ruins and that there is always an available exit to which people can safely exit after the danger is over. Shelters must be supplied with supplies of food and water, sanitary equipment and must have an independent source of electricity. Air quality in the shelter is particularly important, in the sense that its cleanliness,

heat and humidity must be preserved. In particular, preventive measures must be taken against carbon monoxide poisoning and lack of oxygen. Almost no nuclear shelter in the world meets these criteria. The construction of these shelters also requires large material costs. The British “Anderson” shelter costs between 50 and 80 billion pounds to build. Likewise, a system of timely notification of the threat of a nuclear attack must be provided, in order to leave enough time for citizens to evacuate safely.

According to some research from 2022, there is a well-founded doubt that today any atomic shelter built in the 20th century could provide adequate protection against a nuclear explosion. The subject of the analysis was a nuclear shelter that was built under a steel factory in Warsaw in the 1950s. The shelter contains gas masks, stretchers, first aid kits and other items that civil defense managers would need to have in order to provide assistance in the event of a nuclear attack. There is a map of Europe on the wall of the shelter, but without the significant geopolitical changes that occurred in the meantime (the collapse of the USSR and the SFRY), and the equipment in clothes, blankets and shoes has pretty much deteriorated due to the passage of time and certain factors, such as humidity. In view of the latest jingling of nuclear weapons in international circles, the Polish government has issued an order to review the eventual usability of this atomic shelter. However, the results of this research proved that better protection effects would be given by the underground railway tunnels in Warsaw than this atomic shelter, which, at the time it was built, was one of the best in that part of Europe.

CIVIL DEFENSE AND RADIOACTIVE FALLOUT

Nuclear explosions are followed by large radiation fallout, which poses an extremely high risk to people’s lives and health. Civil protection always starts from certain parameters, such as the distance of the radiation source, the type of material used during protection, as well as the time element, because the level of radiation decreases with time (Panevska, 1991: 38). Also, the degree of radiation decreases with distance, and the rate of radiation is measured using the inverse square method. The laws of the inverse square are based on the following statement: “If the distance is doubled, the strength decreases to a quarter of the previous strength, and if the distance is tripled, it decreases to a ninth.” Radiation decreases proportionally to the square root of the distance from the source (Joseph, 1982: 260). The inverted square is applicable to all forms of radiation, and the application of the inverted square method has proven that in well-built shelters and underground, the possibility of radiation penetration is reduced.

The radiation shielding factor is of vital importance in civil defense. The protective factor exists in the construction industry and consists in the application of materials and techniques used in the construction of buildings. A protective factor of ten is the most desirable for residential buildings because it receives only a tenth of the radiation from the outside environment. A higher protection factor is desirable, but it is difficult to achieve and implies the use of very rare and expensive materials and construction techniques.

This higher factor is possible with special atomic shelters, which can have a protection factor of over a thousand. Steel and other solid materials can provide a higher degree of radiation protection, and the level of protection is also affected by the thickness of the walls. For this purpose, the so-called “internal shelters”, which imply the adaptation of one room into a special atomic shelter. Internal shelters mean that one room in a house or apartment is specially protected with insulating materials, such as sand, or by placing obstacles in the form of furniture or filling the soil. In residential buildings, basements have proven to be the safest place to build indoor shelters.

Staying in a nuclear shelter is most needed in the 48-hour period after a nuclear explosion. After that time interval, it is believed that the radiation spreads, and that the intensity of its radiation decreases. Radioactive fallout can be expected within an hour of the explosion. Mathematically speaking, radioactivity decreases tenfold with each sevenfold increase in time, counting from the moment of complete release of the dose of radioactive radiation. Today, science does not provide the exact parameters of what dose and level of radiation can result in the death of people, and the mortality rate varies depending on the cumulative doses received. For more than fifty percent of persons exposed to radiation, the lethal dose was greater than 400 rad (*Radiation Absorbed Dose*). Today, international systems of measurement units are used to measure radiation (SI), according to which the unit of ionizing radiation unit is Gray (Gy). One Gy equals 100 rad (Tomić - Petrović, 2009: 50).

Radiation protection can be partially ensured only in an object that has not been damaged. Any physical damage to the object impairs its protection factor and allows radiation to enter the interior of the object. Also, persons staying in the building must not leave it or open openings, because every opening allows radiation to enter the interior of the building. Therefore, in these situations, civil defense acts in the following directions: according to the shock wave, thermal effects and primary radiation. Also, after the end of the primary, civil protection must act in the direction of secondary radiation and long-term consequences of radiation. This refers to radioactive fallout, but also to socio-economic consequences, consequences for the atmosphere, etc.

CONSEQUENCES AND EFFECTS OF RADIATION

A particular problem with the radioactive radiation is its long-term action and influence. Radioactive fallout usually lasts for the first few days after the explosion, however, the harmful effects of radioactive radiation become apparent only in the following years after the explosion. For the purpose of examining and analyzing the harmful effects of radioactive radiation, a joint American-Japanese committee was established in 1948 whose task was to monitor the long-term consequences and effects of the atomic attack on the two Japanese cities of Hiroshima and Nagasaki.

The effects of radiation on the human world have proven to be very dangerous and are associated with the occurrence of serious diseases such as leukemia, cataracts, mental

retardation and degeneration in newborns. The existence of genetic mutations was established, which can be brought under the direct consequence of radioactive radiation. Of course, this neutral American-Japanese commission encountered numerous obstructions in its work and efforts to hide the most terrible facts concerning the consequences for the lives and health of people and the environment, so it is believed that many truths have never been completely told and that the public was never fully informed of all the catastrophic consequences of this US crime against the Japanese people.

The facts that were found out, after much trouble, are the following: people who were exposed to constant radiation suffered from cataracts. In the period 1951 - 1952, there was an expansion of leukemia in Japan. It was found that people who were directly exposed to the worst radioactive radiations in Hiroshima and Nagasaki mostly get sick from this disease. It was not until 1966 that a slight decrease in the incidence of leukemia among the Japanese was recorded. However, on the tenth anniversary of the nuclear attack on Japan, there is an expansion of cancerous diseases, namely lung, breast and gastro-digestive tract cancer.

In the immediate aftermath of a nuclear attack, there was a high mortality rate for newborns as well as infants. The children who survived the attack had consequences in the form of mental retardation. At that moment, the existence of the problem of genetic mutations and genetic recession was openly suspected. In particular, the intensification occurred by mixing irradiated and non-irradiated persons, which made the genetic process impossible to predict. The influence of radiation on the gonads in humans undoubtedly leads to the frequency of mutations and the creation of genetically mutated offspring.

The nuclear attack on Japan opened up many other questions, such as the physical and biological consequences of atmospheric changes. The issue of damage to the ozone layer was opened, and for the first time the possibility of the so-called "nuclear winters". A question of exceptional importance is whether, after the use of nuclear weapons in Japan, there was damage to the ozone layer of the planet Earth, and whether it was irreversible or reversible damage. Until that phenomenon, there was no mention of damage to the ozone layer. The force of the explosion and the intensity itself were capable of damaging even the ozone layer and thereby actually starting the procedure of permanent destruction of life on planet Earth.

The nuclear winter, according to the theory of Crutzen and Berks from 1982, should follow as a direct consequence of nuclear explosions, combined with large clouds of smoke and dust, which went into the highest stratum of the atmosphere of the planet Earth, which even obscured the Sun and sunlight. Smoke especially contributed to the creation of conditions for nuclear winter, because it has a particularly harmful effect on the illumination of the planet by the Sun. According to forecasts, 100 megatons of smoke could contribute to the darkening of the sky, which would lead to global cooling and a drop in temperature to a fraction below minus twenty degrees. Ultraviolet radiation contributes to this in a particularly favorable way, because it makes it difficult to clear the smoke.

A nuclear winter would contribute to the destruction of plant and animal life because photosynthesis would be disabled, which would mean the extinction of certain

species. On the other hand, severe winters would have harmful consequences for people's physical and psychological health. However, the theories about the nuclear winter were repeatedly contested, and in a later period of time, the theory of global warming, which is caused by the greenhouse effect, appeared. The theory of global warming is exactly the antipodal theory of the theory of nuclear winter, which arises as a result of a long-term gradual increase in average air temperatures, which is a direct consequence of human activity.

The emission of gases that create the greenhouse effect as a special consequence of carbon monoxide and methane, which are caused by the burning of fossil fuels for energy needs (Belić, 2006: 47). Other factors of global warming include agricultural activity, steel and cement production, as well as unplanned and non-domestic deforestation. Snow is becoming less common, even in the mountains, and severe droughts lead to the drying of vegetation and the creation of more and more frequent forest fires.

Nuclear explosions also create socio-economic consequences, more precisely, serious difficulties arise from the recovery of the state and society from a nuclear attack. Civil protection deals, among other things, with the issue of socio-economic recovery after a nuclear attack. As a special problem, the lack of housing, which was destroyed, is cited as a direct consequence of the nuclear explosion, and as a result of the fire that arose directly from the explosion.

Additional difficulties arise due to damage to fuel tanks and electrical energy production facilities, which can cause additional contamination of the environment, but also a problem in the supply of energy after the end of the danger. Targeting industrial and agricultural facilities can have consequences for the production of food products, which causes the problem of hunger and deepens the crisis for the civil population.

Nuclear attacks also cause medical problems, because the number of patients increases, the number of doctors and medical staff decreases, there is a shortage of medicines and medical equipment, hospital capacities are threatened because hospital facilities can be the target of an attack, which creates the conditions for the emergence humanitarian crises. In addition to physical ailments, people who have been the target of a nuclear attack also have psychological problems, anger due to exposure to the risk and consequences of a nuclear attack, as well as sadness and depression due to the loss of loved ones. In order for the civil protection plans that were made before a nuclear attack to be implemented, it is necessary to ensure the supply of the raw materials.

EXPECTATIONS FROM CIVIL DEFENSE

Civil defense plays a key role in crisis situations, which are capable of significantly endangering the life and health of people and endangering the environment. Civil protection must be especially activated in the case of natural disasters, technical disasters, disasters involving radiation, attacks using conventional weapons, radioactive fallout, due to limited nuclear war and large-scale nuclear wars (Perić, 1995: 128).

The main shortcoming of the civil defense organizations was the lack of qualified personnel, who could respond in an adequate manner in emergency situations. A particular problem manifested itself in the coordination of evacuation in endangered areas, in the provision of rescue teams, provision of food supplies and medical equipment, as well as in the maintenance of atomic shelters in a state of functionality.

The importance of civil defense must be recognized when dealing with technical disasters. Then civil defense works with the goal of getting rid of poisons and chemical substances that have been spilled into the atmosphere. However, with the great chemical disaster in the city of Bhopal in 1984, the most pessimistic forecasts proved that civil defense does not work effectively in such situations. Civil defense plans proved to be a key problem, as they are unrealistic, imprecise and without clear instructions on how to proceed.

In many potential risky situations, civil defense and its effectiveness have never been established. We should thank the fact that there were not many technical disasters, so the event in Bhopal in 1984 can be taken as a benchmark for the inefficiency of civil defense in the world. Only the event in Chernobyl in 1986 indicated the need for a more serious approach to the organization of civil protection, especially in the direction of evacuation and better organization of rescue services.

The high level of radiation resulting from the deliberate use of nuclear weapons is an essential danger in technical disasters. Civil defense action should be aimed at saving people. The assumption is that there would be many victims in a nuclear attack because it would certainly be carried out without prior notice. Special measures and protective mechanisms must be taken in the target zone of the nuclear explosion itself.

Civil defense, except in the case of nuclear accidents, has a significant role in ordinary wars with the use of conventional weapons. Weapons are advancing rapidly technically and technologically, gaining new features and characteristics and becoming more and more deadly. Therefore, even though it does not carry as much risk, this weaponry must also be under the watchful eye of the civil defense authorities, because even conventional wars can cause enormous damage and consequences for the civilian population. The priority goal is the evacuation of the population from the war zone.

Radioactive fallout is a phenomenon that affects not only the country where the explosion occurred, but also countries in the immediate vicinity. Precisely for this reason, the civil defense must provide functional shelters in a timely manner, which must be relatively close to the residential zone and meet the accommodation needs of all citizens who live in that residential zone according to their capacity. Shelters must be equipped with technical equipment, must have a sufficient supply of food, medicine, bedding and other necessary things that can ensure people an undisturbed way of life until the end of the danger. Civil defense during that time, using radar technology, should monitor the movement of nuclear fallout, as well as its intensity. Information about nuclear fallout and environmental quality must be communicated to evacuated citizens in a timely manner.

A significant problem in the functioning of the civil defense system is the lack of nuclear shelters. For this reason, alternative locations must be sought in the event of

a potential nuclear strike, which must be located in relative proximity to potential attack targets. No matter how well the shelter is made and has all the necessary elements, there is always a risk as to whether literally all the consequences of a nuclear attack can really be removed and their harm nullified. A higher degree of efficiency can be expected with real shelters than improvised ones, which were created due to the lack of real and adequate ones.

CONCLUSION

The effectiveness of civil defense in a potential nuclear attack is very difficult to assess in today's circumstances. The successes of civil defense have a more relative than an absolute character and can be considered more effective in the defense of specific military objectives, with clearly designed shelter systems and pre-deployment plans. The projection of potential attacks includes both the consequences on military and civilian objects that may be the target of an attack, mostly as a secondary target. Strategic planning time is based on warning time, which usually consists of several days. During that period, pre-dislocation must be undertaken. The tactical warning time is short and lasts only a few minutes, and during its duration measures are carried out in the shelter itself.

The pre-dislocation process can bring some difficulties, such as time losses. Due to poor timing, an attack may occur before the pre-dislocation is completed. In the event that pre-dislocation cannot eliminate the dangers of attacks on the civilian population, the question of the justification of pre-dislocation itself arises.

A stronger intensity of a nuclear attack, or several of them in continuity, drastically lowers the degree of effectiveness of civil defense. Every life saved is a great benefit for a society, and due to the decline in efficiency in the work of civil defense, its importance and social function should in no way be minimized. Effective civil defense is supported by well-designed shelters, which are adequately and timely equipped.

The civil defense system in the Republic of Serbia has always been strong and well developed. With clearly and permanently set goals, civil defense is one of the cornerstones of our defense system, because it works to preserve the territorial integrity and sovereignty of the state, protects national interests, as well as the interests of citizens in terms of their material, cultural and other needs. The long-term goals of civil defense are the protection of people's lives, their material and cultural assets, the environment, as well as protection from war threats and destruction. The Civil Defense cooperates with the armed forces and provides them with significant logistics. It strives to help create the most favorable conditions for protection against natural and technical-technological disasters, as well as other global challenges and dangers. It contributes to eliminating the resulting consequences and acts preventively in order to contribute to the neutralization of dangers and risk reduction.

Therefore, the primary mission of civil defense is the survival of the state and the conditions for the efficient functioning of the political, economic, economic, educational, cultural and other systems of vital importance for the survival of a society. Civil defense

must always be at the service of the country's security authorities and it must act in collusion with them. Civil defense must anticipate crises and develop crisis management plans. Among the most important goals of civil defense is the protection of the civilian population and the most effective elimination of the consequences of an emergency situation.

The condition and appearance of atomic shelters, which were built very intensively during the last century, is not at a satisfactory level today. Many of them have been given a different purpose, they are used as gyms, casinos or for some other similar purposes. The public utility company for shelters regularly announces tenders for leasing these shelters.

The conclusion that can be drawn is that civil defense is an important subject of the security system of every country. However, the effectiveness of civil protection is affected by many factors, which concern the technical limitations of civil defense, climatic conditions, topographical factors, degree of population and population density, which can especially complicate the work of civil defense in the process of population pre-displacement. Also, the effectiveness of civil defense directly depends on the way and quality of planning. It should certainly be mentioned here that in a period not so long ago, civil defense was subject to politicization, especially in countries with a communist and socialist orientation. It is characteristic of the former USSR, former Yugoslavia and some other communist states that civil defense was included in the sphere of public policy, and not in the security sphere, where it naturally belongs. The reason for that should certainly be sought in geopolitical circumstances, which were specific. Precisely because of such treatments, civil defense has acquired a pejorative context over time in post-communist systems, to the extent that any trust and sense of support in difficult situations has been lost.

REFERENCES

1. Belić, D. (2006) "Global Warning and Greenhouse Gases", *Facta Universitates*, Niš.
2. Bubnjević, S. (2023) *Alhemija bombe: toponimi nuklearnog doba*, Laguna, Beograd.
3. Jačović, J. (2021) *Katastrofe izazvane ratnim razaranja*, Fakultet bezbednosti Univerziteta u Beogradu.
4. Joseph, J. (1982) "The Underground Nation", *St. Louis Post – Dispatch*, St. Louis.
5. Lazić, V. (2011) "Černobilj – posle dvadesetpet godina", *Književnost*, god. 66, br. 2, Beograd.
6. Mateša, A. (2022) *Nuklearne nesreće*, Veleučilište u Karlovcu, Odjel sigurnosti i zaštite.
7. Panevska, M. (1991) "Sadržinata na nekoj fisioni radionukleidi vo metod", *Revue medicale Macedonie*, Skopje.
8. Perić, M. (1995) *Civilna odbrana*, Filološki fakultet Univerziteta u Beogradu.
9. Tomić – Petrović, N. (2009) *Rizici i zaštita od jonizujućeg zračenja*, Zadužbina Andrejević, Beograd.
10. Vejl, L. Dž. (1991) *Civilna odbrana*, Vojnoizdavački i novinski centar, Beograd.