This paper is part of the following report:

TITLE: Chemical and Biological Medical Treatment Symposium - Industry II World Congress on Chemical and Biological Terrorism

To order the complete compilation report, use: ADA411272

The component part is provided here to allow users access to individually authored sections of proceedings, annals, symposia, etc. However, the component should be considered within the context of the overall compilation report and not as a stand-alone technical report.

The following component part numbers comprise the compilation report:
ADP013371 thru ADP013468
SUMMARY

Military and political scene within Europe greatly changed during the last decade of the 20th century. Times of threat of a large-scale conventional conflict between two large and opposite military powers are over, however new challenges for the people living on this continent and sharing the same strategic environment emerged. But it seems that many differences between the East and West Europe in some areas are still present even after the fall of the Berlin wall. While some European multinational countries dissolved peacefully, Croatia experienced war, and had to win its freedom and democracy by fighting as the ex-Yugoslavia disintegrated. In the course of the last decade we in Croatia witnessed some events that may be qualified as terrorism. Being a society "in transition", the Republic of Croatia shares the same problems with many other states of the Central and Eastern Europe. Overall stabilization of a society takes a lot of effort, especially the effort to consolidate country's economy, which is our top priority. Beside this, high priority is given to defense building issues as well as to threat reduction. This work will present some efforts and steps Croatia has already taken in order to support security and stability, giving its contribution to the overall European Security Concept. It will also present some specific views relating to the internal need for military-civilian cooperation, emergency planning activities and coordination, highlighting the importance of this cooperation for the military commanders within their areas of responsibility.

INTRODUCTION

After the fall of the Berlin wall, some European multinational countries, on theirs path to democracy, dissolved peacefully. New countries and its old nations recognized their common interest as building democratic societies as enjoying advantages of the new security environment. Ex-Yugoslavia as multinational and non-allied country during the cold-war era "expressed" more democracy than some Eastern European states. However, because of congested contradictories that weight federal relationships, it dissolved by the most difficult way – by war. Some political leaders understood positive democratic and security changes of environment as a good opportunity to use military and other advantages to achieve their political goals. As a result, we in Croatia experienced terrible and uncivilized war and had to win our freedom and democracy by harms way.

During the war we noticed many attacks on chemical industry facilities by conventional weapons. Among others, aggressor targeted Oil Refinery in Sisak, Chemical Industry Herbos in Sisak (producing pesticides) and Petrochemical industry Petrokemija in Kutina as targets of multiple attacks. Because of numerous damages of the chemical industry facilities, the citizens of The Republic of Croatia faced extremely high threat.

Beside some events that may be qualified as terrorism, which posed threat by chemical means to population and environment, in this paper are presented some documents and information for a clearer picture of the contribution of the Republic of Croatia to overall security and stability.
SOME EXAMPLES OF ATTACKS ON CHEMICAL INDUSTRY

CHEMICAL INDUSTRY IN KUTINA
Chronology of major attacks on Petrokemija Kutina
- December 31, 1991. Air raid — two “Orao” planes rocketing
- September 12, 1993. MRL “Orkan” — type missiles with cluster war-heads
- August 6, 1995. Air raid — two “Orao” planes rocketing
- September 8, 1995. MRL “Orkan” — type missiles with cluster war-heads
- September 18, 1995. “Luna” missile
- September 26, 1995. “Dvina” aerosol explosive missile

Hazardous materials and threat evaluation
Petrochemical industry facility “Petrokemija” is located in the central part of the Republic of Croatia, near small town of Kutina with about 40,000 population. The Petrokemija production is made up of 1,800,000 tons per year of installed capacity of fertilizers, 33,000 tons of carbon black and 59,000 tons of bentonite clay-based products. Besides these finished products, four basic chemicals are produced as intermediates but also as possible final products: ammonia (448,000 t / y), nitric acid (415,800 t / y), 98% sulfuric acid (495,000 t / y) and phosphoric acid (165,00 t / y). There are large storages for final products as for intermediates.

This kind of industry with its normal production procedures is balanced and safe. However, any kind of external violation impact can cause a high threat to the facility as well as to the wider area around facility. Experts say that toxic substances in themselves are not the only primary danger, but concentrated extreme amounts of energy brought from the outside in a short period of time, from the thermodynamic point of view, can shift the entire system out of balance and make a sudden emission of large amounts and concentrations of toxic substances possible. As they have noted, the additional danger lies in emergents and piled energy in terms of heat, pressure, etc. at the time of the operation of such facilities. A sudden release of that energy and ignition or explosion of emergents can be so powerful that an attack or an act of aggression becomes only the initial explosive for things to come. For example, “Petrokemija Kutina” uses over 92,000 standard cubic meters of gas per hour. Such combined action of all dangerous factors contribute to possible enormous quantities of toxic substances, carried by wind, leaving the area of industrial facility very quickly and starting to endanger surrounding settlements, population and animals.

The attacks on industrial facilities using any kind of conventional weapons or terrorist acts are equally dangerous when conducted with a final intention — to cause the threat to people and to the environment.

Not only the factory with its more than 3,000 employees was highly endangered, but also the town of Kutina with all of its population, as well as the wider area and environment. As a conclusion on this issue I quote experts: “Consequences for the people and the environment that followed, or could have followed, can be compared with those from chemical weapons.”

INA OIL REFINERY SISAK
Chronology of major artillery attacks and their consequences
- September 2, 1991. 10,000 m³ oil tank was hit by artillery in storage area, roof was damaged and penetrated, fire broke out and was put out by firemen and workers.
- September 22, 1991. 10,000 m³ gasoline tank was hit with a grenade. The fire broke out. After the intervention of firemen, the fire was put out.
- October 7, 1991. Outgoing pipeline of full 10,000 m³ gasoline tank was hit and penetrated with grenade. Massive outflow of large quantities of gasoline in the pipeline channel occurred. Area of fire rapidly spread to 400 meters in length and approximately 20 m in width while the height of flames was higher than 40 meters at the moments producing strong noise at the same time, which made communication during organization of intervention and fire-fighting tactics even more difficult. The fire was put out in 9.5 hours by organized participation of 40 fire-fighting vehicles and teams and that have organized logistical support inside the refinery as well,
- October 18, 1991. After a long and intensive shelling almost 40% of tanks were damaged in the main storage area of the refinery, as well as the retention tank for oiled exhaustion waters, 30,000 m³ oil tank and tanking area for road tankers, with consequences of five simultaneous fires. Three workers were wounded and ten others had been poisoned by carbon-monoxide,
- November 3, 1991. Gasoline tampon tank of unifying production facility, exhaustion water pool and pipelines on different locations in the refinery were hit with grenades. Fire-fighting lasted for 8 hours while hundreds m³ of gasoline, oil and diesel fuel leaked out.
- November 4, 1991. two fuel tanks of 10,000 m³ each, were hit with grenades. Fires were extinguished shortly after,
- November 20, 1991. 10,000 m³ crude oil tank, fuel oil tank and railroad tanker were hit with grenades almost at the same time. All fires were localized but fire on crude oil tank was not possible to put out and it burned down with all of its contents,
- December 13, 1991. 10,000 m³ gasoline tank was hit by artillery grenade, which caused fires and damages on nearby tanks as well. Fire was put out after 4 hours of fire-fighting,
- June 26, 1992. 20,000 m³ fuel oil tank was hit and damaged. About 3000 m³ ran out and devastated the surroundings.

There were noticed 27 major artillery attacks on the Refinery with evident secondary consequences on 109 facilities. About 90,000 m³ of crude oil, semi-products, products and chemicals spilled out on the ground and into rivers Kupa and Sava. Due to well organized emergency response teams, good cooperation with local and wider community officials and prepared shelters, the loses were reduced to minimum. Refinery officials noticed five workers wounded by artillery shells and ten others poisoned by carbon monoxide. But still, amount of gases thrown into atmosphere and the consequential damage to the environment was immeasurable.

OTHER EXAMPLES

Beside two factories attacks noted above, many other chemical and other industry facilities all over the Republic of Croatia have been attacked or endangered by attacks. For example "Herbos", pesticide industry in Sisak was attacked with shells and grenades; "Pliva" pharmaceutical industry could have been hit when Zagreb, as Croatian capital was attacked by aggressor with cluster-head missiles, which caused civilian victims but did not cause a chemical disaster; and many others.
Also, as noticed in September 1991, Yugoslav Ministry of Defense officially published in Yugoslav newspapers their intention to destruct rocket oxidants storage in a village of Kerestinec close to Zagreb. JNA personnel managed this location in that time and Croatian authorities did not know the exact quantities of fuming nitric acid being stored at that time. According to the computer simulation, quantity of 60 t was very dangerous for population of Croatian capital if dispersed in the air, depending of wind direction. Ministry of Health Emergency Response Authorities and Toxicological Service worked in close cooperation with Croatian Police and Armed Forces as with emergency response experts of INA - oil industry company. First aid and medical care teams were organized; reserved beds in hospitals were prepared; and necessary stockpiles of antidotes and medicines were also ready. The problem was solved through negotiations in a way that JNA moved the entire base together with rocket oxidants to Bosnia.

Another example dates back to summer of 1991, when JNA occupied the big dam and hydroelectric power plant on the river of Cetina and left that position to paramilitary Serbian troops. Later in the autumn that year Ministry of Health Emergency Response Authorities and Toxicological Service had to response on another kind of threat when “during the cessation of hostilities drunken paramilitary Serbian troops destroyed an electric power transformer situated on the dam and the transformer oil have spilled during a week slowly into the river.” As the two water-well systems in Dalmatia used the water from Cetina river, emergency response teams in wide cooperation with other governmental organizations had to protect water-well systems by collecting oil from the river. Fortunately, that oil did not contain PCBs.

RESPONSE

Civilian emergency response teams and industrial experts, including military support, had to take actions on locations to minimize victims and damages, but as the lasting solution for this kind of threats, police-military operations also had to be undertaken.

At the conclusion of operations, the remaining one third of Croatian territory that was still occupied was liberated and Croatia was free. Also, co-operation with Bosnian Armed Forces helped to liberate the Bihać area in Bosnia and Herzegovina, which had been surrounded by the enemy for a long time, and the aggressor threatened to take it just like they had taken Srebrenica earlier that year. In a wider area, new balance between Bosnian and Croatian Forces on one side and Serbian Forces on the other was established and some kind of peace agreement was possible. As a result, the Dayton Agreement was signed, paving the way for further sub-regional stabilisation.

During last decade, the Republic of Croatia has faced large problems of displaced people and refugees, war victims, tens of thousands of destroyed homes, large impact of land mines and devastated economy. This war posed a large impact on every single Croatian citizen.

Being a society “in transition”, the Republic of Croatia shares the same problems with many other states of Central and Eastern Europe, and overall stabilization of the society still takes a lot of efforts, especially the effort to consolidate country’s economy as a top priority. Beside this, high importance is given to defense building issues as well as to threat reduction. Croatia is continually making additional efforts and taking steps in order to support security and stability giving its contribution to the overall European Security Concept.

In the Republic of Croatia, terrorism is an act punishable by law. The Croatian criminal Law, which came into force in 1998 outlines punishment for all types of terrorist acts, particularly under the section on the values protected by international law.
Futhermore, the Republic of Croatia strongly believes that terrorism is a global, common security problem, which can only be resolved through active participation of the international community.

The Republic of Croatia is a party to the eight international conventions on terrorism:

- Convention on the Physical Protection of Nuclear Materials (Vienna 1979);
- Convention on the Prevention and Punishment of Crimes Against Internationally protected persons, including diplomats (New York, December 14, 1973);
- Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation (Montreal, September 23, 1971);
- Convention for the Unlawful Seizure of Aircraft (The Hague, December 16, 1970);
- Convention on Offences and Certain other Acts Committed on Board Aircraft (Tokyo, September 14, 1963);
- International Convention Against the Recruitment, Use, Financing and Training Mercenaries (New York, December 4, 1989);

In the Ministry of Foreign Affairs, as the competent Ministry in that respect, two more conventions are considered: Convention Against Taking Hostages and Convention on Prevention of Bomb Attacks.

In accordance with the OSCE Document on Code of Conduct, the Republic of Croatia does not attempt to impose military domination over any other country, but also it actively participates in building a favorable security environment in accordance with its commitment to peace, stability, cooperation and the strengthening of mutual confidence among states.

The Ministry of Defense has an important role in accomplishing this mission. Specific importance is given to implementation of internationally accepted commitments in the area of arms control, primarily the Agreement on Sub-Regional Arms Control (Article IV. Annex 1-b of the Dayton Agreement), full implementation of Confidence and Security Building Measures (CSBMs) within the framework of the Vienna Document 1994/1999, along with additional regional and other CSBMs, based on reciprocity; implementation of the accepted conventions, global and regional agreements, programs and measures in the area of international security (e.g., combating terrorism, organized crime, drug trafficking, cyber terrorism and environment protection).

The Republic of Croatia is a member state to CWC, BTWC, CTBT, NPT, CCWC, Ottawa Convention, and is committed to its full implementation.

CONCLUSION

To achieve freedom and democracy, the Republic of Croatia had to win a war. In order to establish lasting peace in wider area, we are now looking for friends all around. Implementing Agreement on Sub-Regional Arms Control we could notice that large efforts were done to reduce the conventional weapons. As the result of reducing more than 6,500 larger weapons and the democratic changes in surrounding countries, today we are much closer to a real balance and lasting peace. As a result of stability improvement it is to expect
additional reductions of military forces by all countries in region, which could have major importance from economy point of view, as well as for additional confidence, stability and security improvements. And, finally, I underline again that the Republic of Croatia strongly believes that terrorism is a global, common security problem, which can only be resolved through active participation of the international community.

KEYWORDS
Counterterrorism, emergency planning, civil-military cooperation, threat reduction, security

REFERENCES
1. 1999 Croatian Annual Information Exchange on Code of Conduct,
2. 1999 Croatian Annual Information Exchange on Vienna Document 1999, Croatian Verification Centre releases
3. Ivica Bilde, Ivan Pavlenić: TECHNICAL AND ORGANIZATIONAL ASPECTS OF PRODUCTION, SAFETY AND FIRE-FIGHTING SYSTEM AT THE SISAK OIL REFINERY DURING THE PERIOD OF ARTILLERY ATTACKS ON REFINERY
4. Zvonko Brigićević: ARMS CONTROL: CROATIAN EXPERIENCE
5. Josip Friščić*, Marijan Maren, Marijan Lončarević: PROTECTION AND RESCUE SYSTEM OF PETROKEMIJA Inc. DURING THE WAR IN CROATIA,
6. M. Gluhinić*, F. Plavšić: CROATIAN HEALTH SERVICE FOR CHEMICAL ACCIDENTS,