

MOBILE CRISIS MANAGEMENT CONTINGENCY WORKPLACE

Rudolf Horák, Vojtěch Hrubý, Lenka Danielová,
rudolf.horak@unob.cz, vojtech.hruby@unob.cz, danielov@mendelu.cz

*University of Defence, 662 10 Brno, Kounicova 65,
Mendel University of Agriculture and Forestry in Brno, Institute of Lifelong Education
CZECH REPUBLIC*

Abstract: *The article deals with support provided to crisis staff in case a stationary workplace of crisis management is out of operation. The authors suggest a mobile crisis management contingency workplace a problem solution alternative.*

Key words: *crisis management, contingency workplace, container*

INTRODUCTION

The world security environment shows, that non-military security risks persist and often even escalate. The risks result from ethnic, religious, cultural and economic antagonisms among governmental or non-governmental entities. Crisis situations know no frontiers and quickly grow into local armed conflicts. They are usually accompanied by terrorism, mass and forcible migration, etc.

Other non-military threats include a range of security risks such as organized crime, illegal business transactions and financial flows, transfers of people, threats to state infrastructure, damage of communication networks, industrial, military-technical and ecological breakdowns and disasters, epidemics and pandemics, raw material and transport collapses.

In order to manage the whole range of emergency events (crisis situations) not only precautionary measures for civil protection and Integrated Rescue System units have to be ready, but also the working environment for the personnel of crisis staffs and operation centres. With respect to variety of the above mentioned events the stationary workplaces can be put out of operations, either intentionally or accidentally. We have to be prepared for such a situation as well. One possibility of supporting the management of emergency events (crisis

situations) is to prepare crisis management contingency workplaces (CMCW) and for higher efficiency, mobile crisis management contingency workplaces (MCMCW).

Such workplaces can be established from selected mobile elements, e.g. containers with ballistic protection qualities and wheeled chasses. Crisis management workplace (CMW) can possibly be in the air. Such a CMW should meet, among others, the requirements for the protection against NBC threats. It will be required to reinforce CMW with suitable protection systems, or to cover them with soil.

1 BASIC CHARACTERISTICS OF CRISIS MANAGEMENT WORKPLACE

The basic requirement for the CMW is to support the management of activities during military and non-military emergency events (crisis situations), and if necessary to leave the area and deploy in another area.

It will sometimes be required to keep the CMW in secret, which is enabled by a mobile system as well. Such workplaces will be needed especially when the tasks of State Security System (SSS) will be fulfilled by the SSS institutions e.g. constitutional officials and institutions, and central administration (CA). The MCMCW is supposed to be used also by state

administration and local self-administration authorities and by VIPs.

The status of workplaces designed for the work of selected authorities will have to meet the requirements for security and concealment as well as for restricted and non-restricted transfer of information among individual departments (system elements).

For economic reasons the MCMCW should be usable for other purposes as well, e.g. civil protection, emergency survival, co-operation of military activities and international aid.

The MCMCW has to support a non-stop operation. It has to provide suitable social and hygienic conditions, security and protection to crisis staff personnel against weather conditions (protection against cold, dust, bio-pathogens, etc.). Such a workplace should operate independently for at least 5 days including the generation of electric energy.

The MCMCW will serve for managing the activities carried out by necessary number of crisis staff personnel at a particular level or for all crisis staff personnel in a crisis situation in such cases when:

- It will be necessary to manage a crisis situation from the immediate vicinity (inside the area);
- The possibility to occupy a stationary crisis management workplace is excluded either partially or totally;
- There are such security measures taken, which seriously threaten the security of crisis staff members;
- It is necessary to manage humanitarian assistance from the immediate vicinity of an endangered area (stricken area);
- Security requires the crisis situation to be managed from a secret crisis management workplace (military operation, security operation), etc.

It is suitable to establish the MCMCW structure on the principle of modular flexible arrangement, i.e. to create the formation of vehicles, containers and tents, which will meet the requirements of supported crisis staff.

The MCMCW must provide conditions for fulfilling all tasks resulting from the management of emergency events (crisis situations). It will comprise:

- Planning;
- Task reception;

- The activation of workplace and establishment of co-operation with other workplaces;
- Task identification and specification;
- The collection of information and its assessment;
- The prediction of further development;
- The providing of information to public and media;
- The implementation of decisions and operative management of activities;
- Control activities in all phases of crisis situation management;
- Managing the elimination of consequences;

The hardware of MCMCW must comply with the above mentioned tasks.

2 MOBILE FACILITIES OF TEMPORARY CIVIL PROTECTION

2.1 Mobility of Crisis Workplace

The Mobility of the workplace with mobile elements can be considered in two alternatives:

I. One or several facilities will be selected for the workplace. Mobile elements of the workplace will be stored there and the mobility will be provided by transporting people and material from the area of storing into the starting facility and in case of need into other facilities as follows:

- a) material will be stored e.g. in containers and in case of need loaded on vehicles. The vehicles will transport material either in a turn-around or all at once to a final destination;
- b) material will be permanently loaded on vehicles, ready for departure.

II. The workplace will be fully mobile. It will not use pre-set stationary facilities and will operate in the following way:

- a) The fully equipped workplaces will be established e.g. in containers, which will be stored separately. In case of need they will be loaded on vehicles, which will transport them either in turn-around or all at once to a final destination. The containers will be built and the whole workplace deployed there;
- b) The fully equipped workplaces will be established on vehicles ready for departure. They will be operational even without being unloaded.

It will be possible to combine the use of a) and b) in both alternatives. It is the most likely form of utilization.

The mobile elements of MCMCW will be sequenced, so that necessary logistic support will be provided to the minimum necessary number of personnel managing the activities.

Such mobile elements can be partially protected with strengthened walls according to the level of their resistance. Sapper construction of the area may be considered in order to increase resistance. Required concealment will lead to the increased demand for camouflage. Such a request will probably result in lower mobility.

Mobile elements of CW have to meet the requirements for communication and information system (CIS) with the possibility to communicate with authorities, e.g. central state authorities, the EU and NATO authorities, public administration on lower level and Joint Information System of Critical Management (JISCM), etc.

One of the MCMCW elements can be a Mobile Command Centre developed in the Czech Republic in co-operation with the University of Defence.

2.2 Mobile Operation Centre

The Mobile Operation Centre (MOC) is a multifunctional field office capable of transmitting voice data by various communication means (e.g. VHF or Wi-Fi radio stations, Matra or Tetra terminals, GSM/GPRS/EDGE modems, satellite terminal, etc.). It is a modular system that can be configured according to users' particular requirements.

MOC basic configuration consists of the following:

- Communication means for data and voice services (hand radio station);
- Communication means for data services (GSM/GPRS/EDGE modems);
- Resistant DOLCH Note-PAC light notebook;
- Docking station with FDD and DVD/CDRW module;
- Digital camera;
- USB flash disk;
- GPS module;
- A4 colour printer;
- MaTrack communication router;
- USB connector;
- Li-Ion battery pack;
- DC/DC (in 12-32V) power adapter.

The MOC is placed in a mechanically resistant plastic transport box (IP67). The box is equipped with the placing for safe storage of

individual components. The box has four external connectors (IP61), i.e. USB, LAN, COM, and POWER DC.

The MOC is a complex and sophisticated solution designed for working in severe climatic and mechanic conditions. It enables users to work in a standard SW operation system environment of Microsoft[®] Windows[®] and the office package of Microsoft[®] Office[®]. It will ensure maximum compatibility with IT systems and user-friendly environment.

The MaTrack built-in router will transmit wireless data communication automatically, or it will choose a defined network (communication means) available in a given location and establish contact. The hand radio stations are capable of both data and voice communication and can provide conference listening.

The MOC makes it possible to print A4 format in colour and copy materials, too. A digital camera and a GPS module are parts of the box. The power supply of MOC is provided by a battery, which may use a car dash-board system for recharging. It is a modular system that can be extended according to the size of workplace.

2.3 Exchangeable Additions According to European Norms

The MCMCW mobile elements may operate in the form of exchangeable containers transported on wheeled chasses with the equipment for their uploading, in containers, and in containers in combination with air tents.

The European norms (EN) do not define special European containers, because containers are used according to ISO norms. They define exchangeable additions for combined transport of goods on road (railway). The EN 452 defines the requirements for exchangeable additions of A-class, the EN 284 defines the requirements for exchangeable additions of C-class. The A (or C) class labelling means, that the exchangeable additions are equipped with bottom inserted elements, the placing of which corresponds with technical requirements for ISO containers of 1A, or 1C series.¹

¹ Czech State Norm EN 284 (26 9371) Exchangeable Additions of C-Class. Dimensions and General Requirements.

Czech State Norm EN 452 (26 9372) Exchangeable Additions of A-Class. Dimensions and General Requirements.

Exchangeable additions of both classes are designed either as additions of closed type, e.g. boxes, or as an open type, e.g. platforms with or without cover. These exchangeable additions are used for international transport on the road and the railway. In our case they can be adapted for MCMCW.

2.4 Exchangeable Containers

Containers can also be used as tanks and platform lorries. The compatibility of chassis with container is determined especially by the length of addition, the height of tunnel and hook, used blocking and the positions of blocking pins, etc. The length of container can be different at every type of addition. The maximum permissible length can be bigger than authorized.

2.5 Construction Requirements for MCMCW Containers are as follows:

- The thickness of metal sheet walls, roof and floor must be at least 2 mm;
- If a container has windows they must be equipped with shutters.
- Protective properties of shutters must be the same as the properties of walls;
- The fire safety regulations for containers are the same as for buildings;
- All insulating material, facing, paints and floor covering must be fire-resistant;
- The interior surface of containers used for work with open fire must be made of steel or equivalent material;
- The wiring of containers must meet safety standards. Electric network connectors must be secured from outside of the container. Containers must be earthed.
- No part of container's accessories must protrude its outside dimensions and indoor equipment must be fixed.
- Doors and other opening parts of container must be equipped with an emergency opening system.
- Special containers must meet, besides the above mentioned requirements, also appropriate norms, EU and national regulations.
- The conditions for the using of special containers must be in compliance with the Convention on Safety of Containers.

2.6 Basic NBC Requirements

The mobile elements of CW should be equipped with necessary tools and devices for

NBC protection (radiation and chemical reconnaissance, collection and assessment of data on NBC situation and forecasting)

The range of MCMCW mobile element functions will depend on its planned employment and the level of management.

2.7 Conclusion and Recommendation for Technical Solutions

The mobile element, which is resistant against ballistic and NBC threats and predetermined for crisis workplaces, should meet the following characteristics:

- Collect data, evaluate radiation, chemical and biological situation and forecast;
- Participate in organizing the warning;
- Propose the optimal organization of air and ground radiation and chemical reconnaissance;
- Mobile elements must enable day and night activities and transport on all kinds of roads, reinforced field and forest paths;
- Mobile elements must enable communication with other mobile elements of all levels of management, including participation in the Automated System of the Collecting, Assessing and Transferring of Information and compatibility with „The Joint System of Warning and Notification“;
- Mobile elements must meet the EMC characteristics for resistant workplaces in their basic versions;
- Mobile elements must have their own sources of electric power, standby sources and charging sets;
- Mobile elements must enable additional assembly (using) of equipment, such as air-conditioning and heating, for creating suitable microclimatic conditions.

2.8 Requirements for Special Equipment of Mobile Element:

- Computers;
- Communication media;
- Printers, plotters, scanners, etc.;
- GPS;
- Devices for the detecting of contamination and meteorological situation in the ground layer of atmosphere;
- Other supplementary equipment (decontamination set, personal alarm dosimeters, drawing sets, small hand safe, etc.).

2.9 Requirements for Ergonomics, Conditions for Persons' Stay and Activities

- The construction, deployment and assembly of mobile element must meet the requirements for safety and fire protection;
- The overpressure of 350 Pa must be maintained in the sealed space of the mobile element;
- The design and equipment of mobile element must provide basic hygienic and ergonomic conditions for persons' stay and activities, including filtration ventilating device (FVD),
- The mobile element must have lights for the main (fluorescent) lighting, standby (incandescent) lighting and camouflage (emergency) lighting.

2.10 Safety Requirements

- Protection against injury caused by electric power must be in compliance with norms;
- Technical qualification of mobile element must meet national norms;
- The operation of mobile element must not threaten the environment;
- Mobile element should be equipped with basic medical materials;
- Mobile element should be equipped with particular protective devices.

3 SUPPORT OF MOBILITY AND PASSIVE PROTECTION

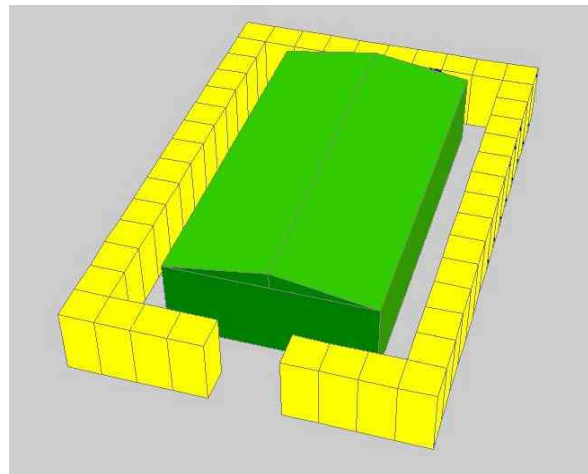
It is a set of tasks and measures resulting from a supposed manoeuvre and a particular activity of a mobile workplace during the solution of crisis situations.

It is necessary to carry out reconnaissance of the areas assigned for the MCMCW deployment in order to support management of crisis situation, hygienic and life conditions, communication and information system, logistic measures, safety, etc.

The resistance of MCMCW should be in compliance with NATO STANAG, e.g. "ENGR 2280/2007":

- The construction of tents can increase its resistance e.g. by sand bags and defence-walls (See picture No. 1);
- The ballistic protection of the workplace placed on a lorry can be increased during the production process;

- The disposal of sewage waters is solved by using the sewage water containers.



Picture No. 1 Defence-wall

4 SITUATION IN THE ARMIES OF NATO MEMBER

Countries

Containerization is put into practice mainly in the US army. Military equipment was transported in containers in the US economy even before the introduction of containers according to ISO norms.

The CONEX steel container for 5 tons of load was mostly used in the mid-50's. The CONEX containers proved their quality especially for sending spare parts and other material. However, they were also used as mobile storages, first-aid stations, communication centres, headquarters, etc.

After introducing ISO norms the ISO 1-C container called MILVAN was produced and in 1969 introduced into the US army. It is a universal steel container. Despite its universality it was designed mainly for the transport of ammunition and spare parts. The introduction of such containers reduced limitations and safety measures for storing and handling explosives.

At present the containerization is a progressive system in all NATO armies. It supports not only the transport of material, but also military activities. Armies use various containers such as Zeppelin aluminium containers, Normeca (See picture No. 2), KAR-BOX, (See Picture No. 3a, 3b, 3c, 3d), etc.



Picture No. 2 Container ISO 1 C NORMECA
(Norway)



Picture No 3a Container KAR-BOX
(the Czech Republic)



Picture No 3b Container KAR-BOX
(the Czech Republic)

As there are many NATO member countries with advanced production of special military equipment there are also many bodies with container grips, which reduce universality. When containers are used as CW they must protect personnel against harmful effects of surrounding environment, i.e. toxic substances and different

radiation. Such a protection is provided by the construction of containers and their filtration and ventilation equipment. The materials from which containers are made must have ability to absorb radiation.



Picture No 3c Container KAR-BOX
(the Czech Republic)



Picture No 3d Container KAR-BOX
(the Czech Republic)

The current tendency in increasing the resistance of mobile elements is the use of add-on armour on vehicles and modern materials. Mobile units of field hospitals consist of e.g. composite materials. It results from the above mentioned that research in the area of protection of equipment is aimed mainly at the use of new materials, sandwich and composite armour and new active and reactive protection. These tendencies lead in most cases to reduced weight with the required level of resistance. At the same time it leads to the increased production price.

CONCLUSION

It is suitable to create the MCMCW in a combined way. The workplaces for top officials are ready in exchangeable containers with certain

level of protection. The workplaces may, in case of need, protect other members of crisis staff. It is suitable to create other workplaces in inflatable tents. It is necessary to have resources ready to increase the resistance of individual workplaces according to security situation. As far as mobility is concerned it is more suitable to use internal radio connection with the help of DECT cordless phones system with one or two base stations (depending on space).

It is useful to select the areas of possible deployment of MCMCW in advance and continuously check the possibilities of their occupation.

REFERENCES:

- [1] Horák, Rudolf et al. Crisis Planning. Brno: University of Defence, 2007. ISBN 80-7231-178-6
- [2] Horák, Rudolf et al. Crisis Management Guide for Public Administration. Prague: LINDE PRAGUE, ltd., 2004. ISBN 80-7201-471-4
- [3] Czech State Norm EN 284 (26 9371) Exchangeable Additions of C-Class. Dimensions and General Requirements.
- [4] Czech State Norm EN 452 (26 9372) Exchangeable Additions of A-Class. Dimensions and General Requirements.

РАБОТНО МЯСТО ЗА МОБИЛНО УПРАВЛЕНИЕ НА ЕВЕНТУАЛНИ РИСКОВЕ

Рудолф Хорак, Войтеч Хруби, Ленка Даниелова
rudolf.horak@unob.cz, vojtech.hruby@unob.cz, danielov@mendelu.cz

Университет по отбрана, Бърно 662 10, Куникова 65,
Университет по селско стопанство и лесовъдство в Бърно “Мендел”
ЧЕХИЯ

Ключови думи: кризисно управление, евентуално работно място, контейнер

Анотация: Статията третира помощта, оказвана на кризисния персонал в случай, че стационарно работно за кризисно управление не функционира. Авторите предлагат работното място за мобилно управление на евентуални рискове като алтернатива за разрешаването на произтичащите проблеми.