

Exercise Green Cloud

Executive Summary



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<http://simtec.jibc.ca>



Introduction

Exercise Green Cloud is the second of five planned exercises that will be conducted over a four year period to study the psychosocial factors involved in the decisions and actions performed during a disaster by responders over a number of scenarios. Psychosocial refers to the interaction between one's mind and body; in practical terms, the term refers to one's physical, psychological and social functioning.

The Simulation Training and Exercise and Collaboratory (SIMTEC) is a significant research project undertaken through the Office of Applied Research and the Emergency Management Division at the Justice Institute of BC (JIBC), Canada; funding support for this project is provided from project partners including the Canadian Safety and Security Program, Centre for Security Science, Defence Research and Development Canada; Employee Assistance Services, Specialized Health Services Directorate RAPB/BRP Health Canada (EAS-HC); JIBC; and Royal Roads University.

Three primary research questions guide the SIMTEC project:

1. What resources and training do Emergency Operations Centre (EOC) personnel need to respond more effectively to the psychosocial consequences of disasters?
2. What resources and training would assist first responders, family physicians and other psychosocial practitioners to respond to the psychosocial consequences of disasters?
3. How can the knowledge and resources developed through this research most effectively be made available to EOC personnel, first responders, psychosocial practitioners, researchers and community members around the world?

SIMTEC is a “collaboratory”, or virtual laboratory of information, research, and expert dialogue focused on providing training and exercises for emergency responders in Emergency Operations Centres (EOC) and other senior decision makers with a specific emphasis on the psychosocial implications. This collaboratory includes a digital library of exercises, injects, scenarios, simulated news footage, and exercise manuals which serve as a central repository and evolving compendium of resources for training and research available on the internet, free of charge to any jurisdiction with access to high- speed internet. The protocols and guidelines will be of interest and applicable to any country.

Exercise Green Cloud

Planning for and the designing of **Exercise Green Cloud** commenced in December 2012 with the initial collaboration of a designated Expert Working Group (EWG) to support and guide the scenario, objectives and outcomes required for a terrorist-based Chemical, Biological, Radiological, Nuclear, Explosive (CBRNE) mass casualty decontamination incident.



Exercise Green Cloud is a simulation exercise with complex disaster injects specifically designed to elicit psychosocial responses from senior decision-makers in the Emergency Operations Centre (EOC) and Incident Command Post (ICP). Information collected from focus groups, and Subject Matter Expert interviews throughout the research process assisted in the development of training materials and guidelines for psychosocial interventions.

Exercise Green Cloud was designed with three purposes in mind:

1. To serve as an opportunity to exercise a potentially real CBRNE scenario;
2. To test the ability of personnel to implement self-care decontamination protocols; and
3. To deliberately include inputs of psychosocial stressors.

Based on CBRNE events, SIMTEC researchers found that many casualties contaminated in a hazardous materials incident left the scene and either went home or presented at a hospital. The resulting secondary contamination and/or response by emergency services proved problematic. Reasons for casualties leaving the scene could be contributed to the delay in response of trained HazMat response teams which are usually staged within local fire departments, often on a regional versus community basis. It is not unusual for HazMat teams to take 45 minutes or longer before they arrive at a scene and set up to begin decontaminating casualties.

The development of a means for casualties to decontaminate themselves, i.e., Self-Care Decontamination, became a focus of **Exercise Green Cloud**. Research indicated that the immediate removal of clothing following contamination removed the vast majority of the contaminant. The concept of Self-Care Decontamination emerged as a means by which casualties did not have to wait for HazMat, did not leave the scene, and did initiate immediate decontamination of themselves; guided by the first responder on scene (which would usually be a police officer or firefighter).

What do we mean by “Self-Care Decontamination”?

Self-Care Decontamination is a series of activities undertaken prior to the arrival of established Hazmat Teams. Self-Care decontamination also includes a number of protocols to address psychosocial considerations throughout the process. The developed *SIMTEC Self-Care Decontamination Protocols* address the additional needs of the many diverse and at risk populations which did not appear to be well represented in previous research and decontamination process protocols.

Protocols were developed on two levels.

A. The first level is the physical decontamination process: including Self-Care Decontamination Kits for adults, children and infants as well as a kit for guide, therapy or police dogs.



The kits contain decontamination wipes (RSDL)¹ water wipes, eyewash, scissors for cutting off clothes to prevent removal over the head, footwear, sanitary napkins, a Tyvek cover-up, and foil emergency blanket; for infants the kits also contain an infant head cover, diaper, soother and extra recovery and receiving blanket. Based on research and the EWG findings, a bag for cell phones that can be sealed is included in the kits. The rationale for this is two-fold – there is the psychosocial benefit resulting from the casualties being able to contact family members and the messaging from the casualties can prevent worried family members from attending the scene.

B. The second level is based on the guidelines to responders:

Move: move people away from the Hot Zone to a safe area 100 metres upwind

Assist: with reassurance and establish a buddy system for support

Disrobe and decontamination: remove all clothing to underwear and wipe off exposed skin and hair from top down

Escort and evaluate: to an area of shelter for further HazMat, psychosocial, and/or medical assessment prior to discharge

An Aide-Memoire, *Self-Care Decontamination MADE Simple*, was based on this process. An additional psychosocial consideration for children had an unexpected benefit on children, adults and responders alike when the research team developed a *Decon Doll* or *Action Figure* for children. The *Decon Doll* was designed to ease their fear of HazMat responders in personal protection gear. The *Decon Doll*, became the most prized piece in the kits.

The Pilot Exercise

A Pilot Exercise was held in North Vancouver in March 2013. Players were recruited for the simulation exercise and included personnel from several communities, including first responders, emergency planning coordinators, and a cross section of a likely community including all ages, abilities and genders. The conducted exercise took place in early morning on a cold and wet day with approximately 37 participants.

Participants were taken through a simulated release of chlorine and bromine with the addition of a randomly released addition of capsaicin. The focus of the simulated exercise was the delivery of Self-Care Decontamination. First Responders set up an area for Self Care Decontamination and responding HazMat teams set up technical and gross decontamination in the designated Warm Zone. Selected participants subjected themselves to technical and gross decontamination procedures. Disaster Psychosocial Services (DPS) volunteers deployed into the exercise supported participants and responders.

¹ Reactive Skin Decontamination Lotion



Following the conclusion of the exercise focus groups were conducted in order to control research protocols. All proceedings were video and audio taped for analysis and audio from the focus group interviews was transcribed and analyzed. The analysis resulted in a list of key themes, suggestions, and recommendations for ways to improve the protocols. Adjustments were made to improve the communications and resources available and enhance the realism of the simulation exercise based on information collected during this phase.

Tabletop Exercise

JIBC Emergency Management Division created **Exercise Green Cloud** as a three hour hybrid functional tabletop exercise that took place in October 2013, via Praxis simulation. Praxis provides an immersive, interactive first-person perspective of an unfolding scenario or event. Critical thinking is required, as learners apply theories and lessons learned while encountering challenging decision points.

The exercise provided participants with an opportunity to test and validate the ability of Players to apply the SIMTEC Self-Care Decontamination Protocols by engaging representatives from local first response agencies including, but not limited to, Fire & Rescue Services, Law Enforcement, Emergency Medical Services, and Hazardous Materials response teams, and hospital first receiver emergency staff, in a simulated CBRNE event. As well, members from Health Canada and the RCMP Integrated National Security Enforcement Team participated in the exercise.

Prior to running the exercise, participants will need to watch a series of short training videos to help them manage the Self Care Decontamination situations they will encounter during the exercise and in order to complete the exercise. The SIMTEC research team developed a 12 unit web based training package including short videos to illustrate Self-Care Decontamination protocols as a recommendation for best practice for emergency management personnel in responding to CBRNE incidents. The topics for the training video are based on actual events and excerpts from the pilot and test exercises.

The exercise scenario focuses on a CBRNE incident impacting the fictitious town of Denton. At the start of the exercise Players are informed they are now employees of the City of Denton, representing whichever agency they work for in the “real world.” For example, a “real” police officer would be acting in the role of a Denton police officer. As the exercise begins, Players receive notification that the Denton EOC is activating in response to a hazardous chemical release at the local recreation centre and the need to provide support to first responders. As the exercise unfolds, Players are confronted with a number of situations and they must decide how to deal with these events, e.g., the death of a first responder and mass casualties requiring decontamination. In each case, Players rely on their training, experience, and plans to decide the most appropriate course of action.



Once the exercise ended the SIMTEC researchers conducted a guided debriefing session that was audio taped for analysis and focus groups. The day following the exercise observers and other members of the EWG met to review and participate in focus groups to provide their considered reviews and recommendations. All proceedings were audio and video taped for analysis and inclusion in the final SIMTEC Exercise Green Cloud deliverables.

On April 1 2014, the final web based **Exercise Green Cloud** was uploaded to the JIBC website and is now available for access and download from <http://simtec.jibc.ca/node/67/>