CANADIAN FORCES COLLEGE / COLLÈGE DES FORCES CANADIENNES

JCSP 34 / PCEMI N°34

EXERCISE/EXERCICE NEW HORIZONS

COAST to COAST – CANADA'S NATIONAL HUSAR CAPABILITY

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ABSTRACT

This paper will argue that following 9/11, the Canadian Government embarked on a robust security enhancement including the development and maintenance of a nationally deployable Heavy Urban Search and Rescue (HUSAR) capability. HUSAR has been strategically located across Canada with the emphasis on responding with life saving personnel and equipment to a myriad of man-made or natural disasters. Over the past seven years, tremendous progress has been made on the development of these highly trained, exercised, and utilized teams. There are several examples throughout recent history where not possessing this national capability has led to unnecessary civilian casualties. Canada continues to have challenges within their HUSAR program, specifically, the inability to effectively air deploy these teams wherever and whenever required, continues to be the greatest impediment in attaining a fully operational capability. In spite of the fact that there are some capability deficiencies within Canada's HUSAR program, Canada now possesses a well trained, equipped, and federally exercised and funded National HUSAR capability that has proven itself both domestically and on the international stage.

Introduction

Renowned Canadian author J.L. Granatstein argues in his 2007 book "*Whose WAR is it?*" that Canada is ill prepared to respond effectively in the event of a natural or man-made disaster. Dr.Granatstein describes a scenario of a catastrophic earthquake in the Vancouver area with simultaneous terrorist attacks in Toronto and Montréal.[1] He proclaims that Canada possesses insufficient military resources and he paints a bleak picture of the Government of Canada's response to the catastrophe. Dr. Granatstein clearly identifies the significant need for a country as vast as Canada to possess a robust capability, poised to meet the demands of such a cataclysmic event. This imperative is echoed through the study of several international incidents where possessing the expertise to conduct search and extrication of trapped civilians and retrieval of key forensic evidence has proven essential.

Within the last 30 years, there have been numerous disasters which clearly demonstrated the necessity for a capable, properly equipped and trained organization to conduct urban search and rescue operations. More specifically, there is a very real requirement for specialized teams trained in Heavy Urban Search and Rescue (HUSAR) operations. This was evidenced, for example, by the 1995 Kobe earthquake in Japan which was responsible for over five thousand fatalities and the temporary displacement of over two hundred thousand people.[2] At that time in Japan, there was no local HUSAR capability to

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[1] Jack Granatstein, *Whose WAR is it? How Canada can Survive in the Post 9/11 World* (Toronto, ON: HarperCollins Publishers Ltd, 2007), 5.

[2] Don Campbell and Edward Czank, "Heavy Urban Search and Rescue: Towards a National Capability, Discussion Paper (Draft)" Ottawa, 2006). Don Campbell is the Manager Policy and Plans at the National Office of Health Emergency Response Teams for Public Health Agency of Canada. Edward Czank is the Canadian National USAR Program Manager and the Canadian Operations Manager, International Search and Rescue Advisory Group within the Preparedness and Recovery Directive of Public Safety Canada.

assist in the recovery of trapped civilians. The first responders and local fire fighters were quickly overwhelmed with the severity of the situation.[3]

A second demonstration was provided in Turkey in 1999. That nation suffered a severe earthquake and subsequent after-shock tremors, lasting for several days and causing considerable damage. There were an estimated fourteen thousand fatalities and more than two hundred thousand civilians were left homeless.[4] Turkey, like Japan and numerous other countries, did not possess a national HUSAR capability, which led to an international plea for assistance.[5]

The major structural collapse of the World Trade Center twin towers, during 9/11, highlighted to the world at large just how essential the HUSAR capability is for dealing with catastrophic disasters in a major urban centre. The Federal Emergency Management Agency Urban Search and Rescue (FEMA US&R) Task Forces responded without delay and were vital in the initial retrieval of essential forensic evidence and collection of victim's remains thereby assisting the grieving process of the victims' families.[6]

Lastly, the collapse of a department store in Seoul, South Korea, on 29 June 1995, illustrated the fact that there doesn't have to be an earthquake to justify the possession of HUSAR resources.[7] Although all of these examples are painful reminders of severe natural and man-made catastrophes, they also serve as clear indicators that a national, highly

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[3] Ibid., 5.

[4] Ibid., 5.

[5] Ibid., 5.

[6] Ibid., 5.

[7] City of Toronto, "City of Toronto: HUSAR - Background," City of Toronto, 1. http://www.toronto.ca/wes/techservices/oem/husar/background.htm (accessed Apr/9, 2008).

responsive HUSAR capability is an imperative both to save lives and to collect critical forensic evidence.[8]

HUSAR personnel not only facilitate the response to disasters; they also minimize the risk to volunteer rescuers. This was highlighted in the rescue operations immediately following the devastating 1985 Mexico City Earthquake where 130 volunteer rescuers were killed during the rescue operation. In comparison, immediately following the Oklahoma City bombing in 1995, where HUSAR teams were on site managing the rescue operation, only one non-HUSAR rescuer was killed.[9]

The scene that Dr.Granatstein formulated in his book is extremely grim and one is led to believe that the GoC has done very little to prepare for a national catastrophe. It is surprising that in 2007, this scenario is focused primarily on the Canadian military's ability to react rather than a whole of Government approach to disaster response. This short-sighted assessment marginalizes the tremendous effort made to improve capability to meet the demands of any disaster or crisis by Public Safety Canada since 9/11.

Although this is a nascent capability, this paper will argue that Canada now possesses a highly motivated, trained and effectively manned, equipped and exercised National HUSAR capability poised to respond provincially, or nationally to meet the challenges of conducting USAR operations regardless of conditions.

Prior to discussing the capability it is important that we understand exactly what is meant by HUSAR as far as effects and capabilities. Once this foundation is laid, I will show how it has been developed in Canada and explain how a deployment would be conducted.

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[8] Ibid., 1.

[9] Campbell and Czank, *Heavy Urban Search and Rescue: Towards a National Capability, Discussion Paper (Draft)*, 5.

This will show that there is, in fact, a developing national capability to respond to the types of threats outlined by J.L.Granatstein. Subsequently we will turn to some of the successes that HUSAR in Canada has had, demonstrating that our capacity has been used in both the domestic and international realms. Lastly we will examine some of the challenges which remain before HUSAR attains a fully operational status.

HUSAR: What is it?

USAR is a general term encompassing the gamut of structural collapse rescue skills and capabilities that cover the spectrum of basic teams who perform simple rescues with minimal equipment, to fully mobile HUSAR teams capable of operating in the most demanding of environments.[10] A USAR Team is made up of six major functional components. These are Incident Command, Search, Rescue, Emergency Medical Services, Planning & Technical Information and Logistics.[11] HUSAR is the search and rescue of trapped persons in collapsed structures using a multitude of tools including specifically trained search dogs and sophisticated search equipment. These teams possess the expertise to breach and shore all types of structural components through the application of heavy equipment such as cranes to lift and remove debris. Specialists within the HUSAR teams conduct the extrication and treatment of victims.[12] HUSAR teams are not just a compilation of qualified first responders, but organized teams of

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[10] Don Campbell, "Public Safety and Emergency Preparedness Canada: Overview of Urban Search and Rescue Program" (Briefing Note, Ottawa, ON.

[11] Office of the Fire Commissioner, "Manitoba Urban Search and Rescue (USAR) CAN TF4," 3. http://www.firecomm.gov.mb.ca/docs/usar_booklet_2007.pdf (accessed Apr/9, 2008).

[12] Campbell, *Public Safety and Emergency Preparedness Canada: Overview of Urban Search and Rescue Program*, 1.

highly trained experts designed to be employed in the most precarious of urban search and rescue operations.

Genuine need or post 9/11 reaction?

Local first responders, such as fire fighters, paramedics, and police services, are the front line of defence in any emergency, regardless of magnitude.[13] These organizations attempt to equip themselves and train their personnel to conduct rescue operations at the scene of an emergency whether it is an earthquake, flood, or a major structural collapse. In the event of an emergency involving main structural collapses such as a high rise complex, there is a finite amount of time before the search and rescue operation for survivors transforms to a forensic evidence collection and salvage operation. According to one source 81% of those rescued on the first day are likely to survive. This rate decreases to 34% on the second day and plummets to only 7% by the fifth day.[14]

Emergency planners have long recognized the severity of the potential impact of a major earthquake on Canada's West Coast. Studies conducted in 1989 for Canada Mortgage and Housing Corporation indicated that 10-30% of all residential infrastructures would become uninhabitable and up to 30% of transportation routes would be deemed unusable. The prediction is that 50-100% of all un- reinforced masonry buildings would collapse and upwards of 60% of older schools and hospitals that have not been strengthened would become inoperative.[15]

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[13] Office of the Auditor General of Canada, *2005 April Report of the Auditor General of Canada: Chapter 2 - National Security in Canada -the 2001 Anti-Terrorism Initiative - Air Transportation Security, Marine Security, and Emergency Preparedness* (Ottawa: Office of the Auditor General of Canada,[2005]), 13. http://www.oag-bvg.gc.ca/internet/English/aud_ch_oag_200504_2_e_14933.html (accessed Apr 7, 2008).

[14] City of Toronto, *City of Toronto: HUSAR - Background*, 1.

[15] Ibid., 1.

In an effort to be effectively prepared for a devastating earthquake, the City of Vancouver commenced development of a HUSAR Team in 1995 similar to the composition of USAR teams in the United States.[16] The program was financed equally between the City of Vancouver, and a combination of provincial and federal monies. It was not initially structured or financed as a national program but materialized through the clear foresight of the City of Vancouver.[17]

Following the devastating terrorist attack of 9/11, the Canadian government announced a robust security program designed to address a number of deficiencies including air travel security, port security, border security, and emergency preparedness in the event of a terrorist attack on Canadian soil.[18] In its December 2001 budget, the Canadian federal government allocated twenty million dollars over six years and three million dollars ongoing to develop and maintain a national HUSAR capability to address all hazards.[19] The funding was part of $328 million dollars aimed at increasing the national capacity to respond to emergencies in Canada, whatever the cause or threat.[20] Through the Joint Emergency Preparedness Program (JEPP), PSC [21] has committed over eleven million dollars for 99 USAR (Light, Medium, and Heavy) teams funding across

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[16] Vancouver Urban Search and Rescue (CAN-TF1), "Vancouver Search and Rescue," http://www.can-tf1.org (accessed Apr/9, 2008).

[17] Ibid.

[18] Canada. Privy Council Office, *Securing an Open Society: Canada's National Security Policy* (Ottawa: Her Majesty the Queen in Right of Canada, 2004).

[19] Office of the Auditor General of Canada, *2005 April Report of the Auditor General of Canada: Chapter 2 - National Security in Canada -the 2001 Anti-Terrorism Initiative - Air Transportation Security, Marine Security, and Emergency Preparedness*, 22.

[20] Edward Czank, "Heavy Urban Search and Rescue (HUSAR) Background Information", 1.

[21] Public Safety Canada (PSC) was formerly Public Safety Emergency preparedness Canada (PSEPC) and originally the Office of Critical Infrastructure Protection and Emergency Preparedness (OCIPEP)

the country since 2001-2002.[22] These programs are based on a cost-sharing program between PSC & the provinces and territories giving fifty nine USAR (Light, Medium and Heavy) projects across the country.[23] In 2002-2003, following Provincial and Municipal consultations, PSC selected Vancouver, Calgary, Toronto, Montreal and Halifax as sites for the development of Heavy USAR teams.[24]

The initial program development for HUSAR was based on International, Federal, and Provincial consultation as well as advice from a multi-stakeholder USAR Advisory Committee. There were a number of priorities assigned by PSC for USAR policy and program development. One priority was the development of plans, policies, and protocols on deployment responsibilities for PSC, HUSAR Teams and afflicted jurisdictions. The development of a standard equipment stockpile properly managed and prepared for air deployability and self- sustaining operations in accordance with the HUSAR Classification guide was defined as a second priority.

Equal importance was given to the conduct of critical training in technical skills and vital joint operations with other HUSAR teams along with adherence to applicable Canadian national guidelines or standards. A final priority was to ensure there were structured exercises in which to hone critical skills in combination with the maintenance of capabilities and continuing the development of inter-operability.[25] What should be

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[22] Edward Czank, "Heavy Urban Search and Rescue (HUSAR) Background Information", 1.

[23] Campbell, *Public Safety and Emergency Preparedness Canada: Overview of Urban Search and Rescue Program*, 1.

[24] Ibid., 1.

[25] Ibid., 2.

evident is that Canada has now established a regulatory framework for USAR & HUSAR as well as funding models to support this capability nationwide.

USAR Categorization

The Canadian USAR response is classified into three categories: Light, Medium, and Heavy. Although this paper focuses on the Heavy role, it is important to understand the capabilities of Light and Medium and the existing level of complexity that is associated with HUSAR.

Each of the USAR categories has associated performance criteria, training requirements, and equipment holdings.[26] Heavy incorporates the criteria for Medium which incorporates the criteria for Light USAR.[27] Many of Canada's cities possess the ability to organize and conduct light or medium urban search and rescue operations. Currently, there are a combined total of 54 Light, Medium, and Heavy USAR teams located in various cities across Canada.[28]

The Light and Medium teams possess a myriad of capabilities to conduct urban rescue operations but are not equipped or trained to the level of the nationally deployable Heavy USAR teams. The area of response for Light USAR teams is contained within their respective jurisdiction such as a municipality or town. Light teams must be capable of sustained operations over a period of one operational shift (up to 12 hours). Their victim care capacity, highlighted as number of individuals, is as follows: Red (critical) care is zero

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[26] Public Safety Canada, "Public Safety Canada: Canadian Urban Search Ad Rescue (USAR) Classification Guide," 2. http://www.publicsafety.gc.ca/prg/em/usar/usar-guide-eng.aspx (accessed Apr/13, 2008).

[27] Ibid., 2.

[28] Edward Czank, Joint Emergency Preparedness Program 2001-2002 to 2007-2008 Accessed JEPP for USAR, 2008, 2.

persons, Yellow (moderate) care is identified as five persons, and Green (minor) care is recognized as ten persons.[29] The Light teams are trained and equipped to search and stabilize structural wood systems, light metal components, un-reinforced masonry which supports floors and other wall-cladding and roofing systems.[30]

In addition to the entire Light USAR criterion, Medium USAR teams must possess the capability of responding within mutual boundaries while providing a sustained response for one operating day (24 hours).[31] Medium teams are also mandated to provide victim care capacity similar to Light teams with the additional task of providing care to one or two critical persons.[32] In addition to managing all Light team responsibilities, Medium teams must also maintain a response capability to effectively search and stabilize all collapsed or failed structures. This includes search and rescue operations for heavy timber, reinforced masonry construction, or steel frame.[33]

Heavy USAR teams possess significantly more equipment and skills to meet the demands of any national disaster. These teams are equipped to operate anywhere within the geographic boundaries of Canada.[34] They maintain a sustainment response of up to ten operating days although the HUSAR teams require a re-supply within 3 days.[35] HUSAR teams must provide critical care to ten persons, and an additional fifteen persons requiring

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[29] Public Safety Canada, *Public Safety Canada: Canadian Urban Search and Rescue (USAR) Classification Guide*, 2.

[30] Ibid., 2.

[31] Ibid., 6.

[32] Ibid., 6.

[33] Ibid., 6.

[34] Ibid., 7.

[35] Ibid., 7.

moderate care and at least twenty-five persons listed as requiring minor care.[36] HUSAR teams must be capable of searching and stabilizing all collapsed or failed structures including structural engineering and rigging for massive structural collapse.[37]

The Heavy USAR teams are manned with several specialists to provide a multitude of capabilities specifically in the event of a major structural collapse. Rigging specialists that are capable of assessing the capability of construction related equipment and who are adept at the implementation of rigging techniques including the development of rigging plans and procedures are a critical component.[38] Structural specialists capable of identifying structural types and assessing risks posed by structural damage are also vital to the HUSAR team composition.[39] The structural specialist must also be capable of the design, inspection, and supervision of hazard reduction interventions in addition to structural monitoring and demolitions.[40] Technical Search Specialists, an essential component of HUSAR, must be proficient at the advanced principles and theories of electronic search, operation of selected technical electronic, optical, and acoustical search equipment while coordinating multiple search operations.[41]

Canine Search Specialists are a key capability of HUSAR. In an effort to implement Canadian standards, the Canadian Disaster Search Canine Certification Guideline was

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[36] Ibid., 7.

[37] Ibid., 7.

[38] Ibid., 12.

[39] Ibid., 12.

[40] Ibid., 12.

[41] Ibid., 12.

drafted in March 2006.[42] These specialists must be skilled at canine search operations within numerous search domains including various terrain compositions, building structures under all types of weather and air circulation characteristics.[43] A vital component of the Heavy teams, the Medical Specialist, must be a qualified Advanced Care Paramedic under the minimum supervision of a Medical Director. This specialist must be proficient in advanced trauma, life support, and advanced cardiac life support.[44] The Logistic Specialist, an International Air Transportation Association (IATA) Loadmaster is responsible for the safe transportation of all dangerous goods either by road or air to the incident site.[45]

The Communication Specialist, a licensed amateur radio operator, is responsible the maintenance of all communication equipment in addition to the planning, and procurement of all team communication systems and networks.[46] At present, the teams are only capable of operating in a non-secure communication environment. Another critical element of the team is the combined Hazardous Material (HazMat) and Chemical, Biological, Radiological, and Nuclear (CBRN) Specialist. This individual is a certified HazMat Technician in accordance with the NFPA 472.[47]

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[42] Mary-Ann Warren, "USAR Canadian Disaster Search Canine Certification Guideline in the Works," *The Search and Rescue Dog Association of Alberta: Scent Dog News,* March 2006, 2006, 2. http://www.sardaa.ca/ScentDogMar_06.pdf (accessed Apr 2008).

[43] Public Safety Canada, *Public Safety Canada: Canadian Urban Search Ad Rescue (USAR) Classification Guide*, 12.

[44] Ibid., 12.

[45] Ibid., 12.

[46] Ibid., 12.

[47] National Fire Protection Association (NFPA) 472 is the Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents

To complete the technological expertise within the HUSAR, each team has a Technical Information and Planning Specialist capable of data management, word processing, graphic software manipulation as well as technical report development.[48] In an effort to guarantee that the HUSAR teams can operate within an emotionally charged incident site, each team employs a Public Information Specialist. This individual is responsible for all media relation products and crisis operations inquiries.[49] Light and Medium teams bring an abundance of capability and experience to a given situation. There is no doubt that the enhanced expertise within a HUSAR team provides the GoC with an extremely in-depth nationwide disaster response capability.

National Coverage

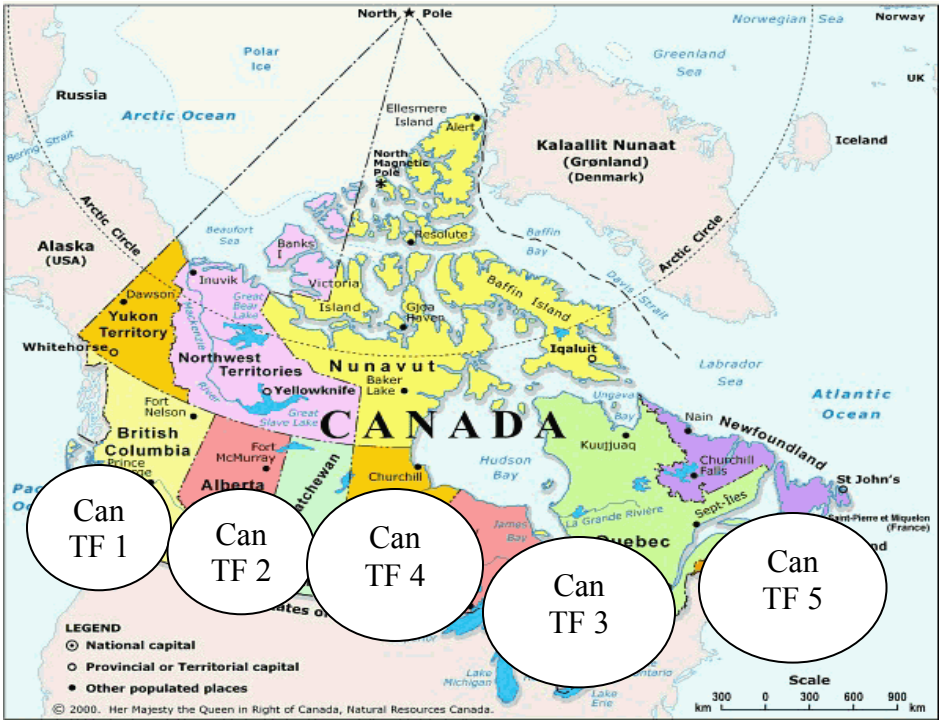

Figure 1: National HUSAR Task Force Disposition

[48] Ibid., 13.

[49] Ibid., 13.

The HUSAR teams are strategically situated across Canada. Canada Task Force (CAN TF) 1 is situated in Vancouver, CAN TF 2 resides in Calgary, CAN TF 4 is housed in Manitoba, CAN TF 3 operates out of Toronto, and CAN TF 5 is located in Halifax.[50] The Vancouver team, CAN TF1 is the most developed HUSAR team and was accredited to the United Nations International Search and Rescue Advisory Group (INSARAG) standards in May 2001.[51] In the aftermath of Hurricane Katrina, CAN TF1 deployed internationally to Chalmette, Louisiana where they successfully rescued 119 victims as they went door to door under the protection of armed escorts. Tim Armstrong, one of the team's leaders remembered their reception:

> The president of [St. Bernard Parish] got up and hugged me when I came through the door. They all started weeping, because we were the first sign of relief effort that came in there.[52]

The Vancouver task force was the first rescue team to arrive in Chalmette demonstrating an exceptional ability to organize, deploy, and commence operations under extremely adverse conditions.[53]

In 2004, PSC announced federal funding for the development of an advanced multi-agency mobilization and training centre in Calgary.[54] This site was completed in

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[50] Campbell, *Public Safety and Emergency Preparedness Canada: Overview of Urban Search and Rescue Program*, 2.

[51] Ibid., INSARAG is a global network of more than 80 countries and disaster response organisations under the United Nations umbrella. INSARAG deals with urban search and rescue (USAR) related issues. INSARAG aims at establishing standards for international USAR teams and methodology for international coordination in earthquake response. Members of INSARAG are both earthquake-prone and responding countries and organisations. http://ochaonline.un.org/Coordination/FieldCoordinationSupportSection/INSARAG.asp

[52] CTV.ca News Staff, David Kincaid and Michele Brunoro, "From Vancouver, B.C. to Chalmette, Louisiana," CTV News, http://www.ctv.ca/servlet/ArticleNews/story/CTVNews/1125978665424_119 (accessed Apr 14, 2008).

[53] Ibid.

May 2005 and it is anticipated that this centre of excellence will be employed by all HUSAR teams to conduct various levels of training given that this facility is specifically designed to exercise all USAR skill sets.[55] The Calgary based HUSAR team presently suffers from ongoing labour-management challenges which restrict their deployment capability, therefore, CAN TF 2 is able to deploy within Alberta, but are unable to deploy nationally.[56]

In 2003, PSC approved the build-up of a HUSAR team in Manitoba (CAN TF 4) to minimize the geographical gap between Calgary and Toronto.[57] This team is unique in that it has established its HUSAR team based on a province-wide resource construct vice a city such as Winnipeg. The Manitoba team also supports an accreditation program for USAR training standards.[58]

Due to the size of Toronto's emergency first responder composition, CAN TF 3 brings significant depth to Canada's national HUSAR capability.[59] In 2003, the Toronto team was deployed in response to the tragic uptown theatre collapse in downtown

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[54] Public Safety and Emergency Preparedness, *News Release: Government of Canada Provides Over $1 Million in Funding for Urban Search and Rescue Equipment* (Ottawa, 2004).

[55] Public Safety Canada, "Partnership Results in Grand Opening of Urban Search and Rescue Multi-Agency Training Centre," http://www.sp-ps.gc.ca/media/nr/2005/nr20050506-1-eng.aspx (accessed Apr 14, 2008).

[56] Blanchard, Stephen, The Mergis Group, *Summative Evaluation for the Heavy Urban Search and Rescue (HUSAR) Initiative*, 2007, 14.

[57] Campbell, *Public Safety and Emergency Preparedness Canada: Overview of Urban Search and Rescue Program*, 2.

[58] Ibid., 2.

[59] Ibid., 2.

Toronto. They were instrumental in the rescue of several trapped victims within the rubble.[60]

The Halifax team, CAN TF 5, has taken a measured approach to the development and implementation of their respective HUSAR team. Their intent is to build methodically in order to possess a sustainable capacity over time. They currently have twenty-four responders trained in HUSAR.[61] The City of Montreal and the Province of Quebec remain in discussions on how to properly support a Quebec - based HUSAR team with the possible intention of developing a sustainable capability in the future.[62] It is clearly evident that Canada now possesses a national HUSAR capability that has not only deployed internationally, but has been tested domestically as amplified through the direct involvement in the rescue operation following the theatre collapse in Toronto.

In the Event of an Emergency

The mobilization, deployment, and redeployment of National HUSAR teams follows the Public Safety Canada's Federal Emergency Response Management System's (FERMS-HUSAR contingency plan) framework which consists of five phases: Notification and Warning, Planning, Activation, Operations Coordination, and Demobilization.[63] In the event of an emerging or imminent national emergency, the GoC Senior Duty Officer will take steps to increase the GoC Activation Level. The Duty officer will also issue the related

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[60] Toronto HUSAR was honoured for their heroic efforts in rescuing trapped victims in the uptown theatre collapse. http://wx.toronto.ca/inter/it/newsrel.nsf/0/237c7cb96275bb0e85256df8005ad111?OpenDocument

[61] Ibid., 2.

[62] Don Campbell, "Public Safety and Emergency Preparedness Canada: Overview of Urban Search and Rescue Program" (Briefing Note, Ottawa, ON.

[63] PSEPC Plans and Major Events, "Government of Canada HUSAR Deployment Strategic Contingency Plan, Version 13 (Draft)" Ottawa, Aug 2005), 4.

notifications, alerts, and warnings, maintain situation awareness and maintain monitoring activities throughout the duration of the emergency.[64]

Following notification and warning the Strategic Planning Procedure (SPP), which leads to an appropriate Action Plan, commences based on the GoC strategic level deployment contingency plan.[65] Provinces will first have to approve operational control of committed HUSAR Task Forces to the Federal Incident Coordinator. The applicable HUSAR teams will then activate their deployment plans and the logistics role within the GoC will commence resourcing and ultimately activating the strategic movement of the HUSAR resources to the appropriate Air Ports of Embarkation (APOEs). Once the GoC has approved the deployment of a HUSAR team, the PSC Regional Director (RD) who possesses the responsibility to support the deployment of the team will work with the HUSAR team leader to arrange appropriate transportation from the HUSAR equipment storage site to the identified APOE.[66]

At the Air Port of Disembarkation (APOD), the PSC Regional Director responsible for the coordination of the federal response at the Base of Operations, will work with the Provincial or Territorial Incident Coordinator. The logistics role will arrange the air transport between the APOE and the APOD. As soon as possible, the HUSAR team leader will deploy a reconnaissance team to the incident site to assess the level of response required.[67] Bearing in mind that victim survivability is a product of having a capable HUSAR team on site as soon as possible, it is essential that a robust and highly flexible deployment strategy be

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[64] Ibid., 5.

[65] Ibid., 5.

[66] Ibid., 5.

[67] Ibid., 6.

implemented and exercised on a regular basis. Currently, air deployability continues to be the most significant potential challenge facing this national capability. The GoC continues to refine its comprehensive deployment strategy for HUSAR teams focused on delivering the HUSAR capability nationally within critical victim survivability timelines.

The five HUSAR teams have been in the process of ratifying in-depth Memorandums of Understanding (MOU) between Public Safety Canada and the provincial departments responsible for the employment of the respective HUSAR team since 2004. All teams have provincial MOUs allowing them to be deployed within their respective provinces; however, there continue to be challenges securing MOUs to allow various teams to be deployed inter-provincially. One need only examine the ongoing draft MOU between Public Safety Canada, The Ministry of Community Safety and Correctional Services (MCSCS) for the Province of Ontario, and the City of Toronto to see the complexities inherent in this national capability.[68]

If potential exists for the Toronto-based HUSAR team to be deployed outside of Ontario, Public Safety Canada is responsible to notify the Toronto HUSAR (CAN TF3) of possible inter-provincial or international deployment. The Ministry of Community Safety and Correctional Services (MCSCS) for the Province of Ontario then ensures that CAN TF3 is not required elsewhere in the province. If the decision is made to activate CAN TF3, the Department of Public Safety and MCSCS will each appoint a liaison officer to assist in the mobilization of the team. The MOU reflects the fact that CAN TF3 will bring their

[68] Don Campbell and Edward Czank, "Memorandum of Understanding among the Department of Public Safety and the Ministry of Community Safety Nd Correctional Services for the Province of Ontario and the City of Toronto" Ottawa, 2005).

personnel and equipment to operational readiness for deployment as soon as possible, generally within six hours.[69]

PSC is responsible to arrange transportation or to authorize the use of local resources dependant on cost effectiveness and criticality of deployment. Once CAN TF3 is no longer required outside of Ontario, PSC will coordinate the demobilization with the afflicted jurisdiction, the MCSCS, and the City of Toronto through detailed written correspondence. To ensure CAN TF3 is capable of re-deployment, immediately following demobilization, the team will prepare a detailed report for PSC approval identifying equipment and supplies lost, damaged or that otherwise had to remain in the afflicted jurisdiction. It is the City of Toronto's responsibility to finance the activation, mobilization, and demobilization phases and through a cost –recovery process, they are reimbursed by Public Safety Canada.[70]

Although, the MOUs for the other HUSAR teams are similar to Toronto in many aspects, the main difference is who the respective HUSAR team report to and receive their direction from concerning participation and funding for the activation, deployment, mobilization, demobilization, and re-establishment of the team. For example, CAN TF1 in Vancouver responds under the Ministry of Public Safety and Solicitor General for the Province of British Columbia.[71] While the Calgary HUSAR team responds to the Ministry of Municipal Affairs, for the Province of Alberta.[72] As mentioned earlier, the Manitoba team is

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[69] Ibid., 5.

[70] Ibid., 6.

[71] Don Campbell and Edward Czank, "Memorandum of Understanding among the Department of Public Safety and Solicitor General for the Province of British Columbia and the City of Vancouver. (Draft)" Ottawa, 2005).

[72] Don Campbell and Edward Czank, "Memorandum of Understanding among The department of Public Safety and the Ministry of Municipal Affairs, for the Province of Alberta and the City of Calgary (Draft)" 2005).

a province wide team as opposed to a specific city. It responds to the Department of Intergovernmental Affairs and Trade, for the Province of Manitoba[73] while the Halifax team reacts to the direction of the Province of Nova Scotia Emergency Measures Organization.[74] Although all the teams respond under a different provincial organization, their training and qualifications are consistent with the National Fire Protection Association standards. Complex in nature, each MOU draft is focused on a responsive approach to the activation and delivery of its respective national HUSAR capability in the event of a disaster.

Exercising the Capability

Exercises are the final aspect in the development and maintenance of a national HUSAR capability. HUSAR is a multi-disciplinary rescue task encompassing additional risk measures due to communication interoperability and effective coordination. Although the members of a HUSAR team are seasoned experts, their ability to operate in a joint construct may be limited.[75] HUSAR exercises are designed to address a myriad of issues including interoperability with other teams, team mobilization and deployments, and joint operations with afflicted Provinces and Municipalities.[76]

PSC and HUSAR stakeholders determined that each spring, a tabletop exercise would be conducted to address any after action observations and findings from the previous year's Full Scale exercise. A validation Full Scale exercise consisting of

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[73] Don Campbell and Edward Czank, "Memorandum of Understanding between the Department of Public Safety and the Department of Intergovernmental Affairs and Trade, for the Province of Manitoba" Ottawa, 2005).

[74] Don Campbell and Edward Czank, "Memorandum of Understanding among the Department of Public Safety and the Province of Nova Scotia Emergency Measures Organization and the City of Halifax" Ottawa, 2005).

[75] Edward Czank, HUSAR Exercises, email 2008.

[76] Ibid.

members from all five HUSAR teams would then be conducted in the fall, thus closing the after action cycle. This cycle commenced with Exercise MARCH FORWARD in the spring of 2006.[77]

Exercise MARCH FORWARD was held in Calgary, Alberta during the period 6-12 March 2006. The importance of this exercise was that each of the five national HUSAR teams participated in the exercise. This made EXERCISE MARCH FORWARD the first joint full-scale exercise for the entire HUSAR program since its conception in 2001.[78]

The goal of the exercise was to allow the HUSAR teams to work together in a detailed and sophisticated response scenario. Throughout the exercise, numerous factors were assessed to evaluate the national capability of the five teams. The capacity for the individual teams to operate in a synergetic manner while conducting operations involving their full range of rescue skills employing rope rescue, extrication equipment, K-9 units, building stabilization and shoring, casualties and vehicle stabilization was assessed as acceptable.[79] The ability for a team to join an ongoing incident site and seamlessly establish a unified command structure was assessed as satisfactory.[80] On a negative note, communications interoperability was assessed as only being marginally effective. In particular, there were barriers regarding the effective lines of communication between the HUSAR teams and their respective home administrative support network.[81]

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[77] Ibid.

[78] Edward Czank, *Exercise March Forward, After Action Report* Public Safety and Emergency Preparedness Canada, 2006.

[79] Ibid., 11.

[80] Ibid., 12.

[81] Ibid., 12.

HUSAR teams also conduct individual team exercises to elevate their skill sets and refine their operating procedures. CAN TF 4 conducted several exercises in 2006 and 2007 including an exercise in Churchill, Manitoba to validate their procedures in a northern environment.[82] The GoC and individual HUSAR teams have taken a pro-active approach to refining capabilities through comprehensive exercises simulating complex rescue operations under all meteorological conditions. It is evident through this pro-active exercise framework that the GoC is determined to maintain the national HUSAR capability at an exceptionally high readiness level.

Challenges

There are challenges that Public Safety Canada continues to address in the ongoing refinement of this National capability. They are: medical regulatory concerns, funding constraints, MOU ratification, and assured airlift capability.

There is significant complexity within the regulatory process for HUSAR members of the medical profession to operate seamlessly across the provincial borders. Some of the existing medical professions are regulated at a provincial or territorial level within Canada. Although there are various approach to licensing, most regulatory bodies will provide for short term licenses that can be approved in as little as 72 hours.[83] There is also a further requirement to facilitate mobility of practitioners in regulated medical professions for no-notice deployment in emergencies.

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[82] Government of Manitoba, "Media Bulletin: MANITOBA'S URBAN SEARCH AND RESCUE TEAM TESTS REMOTE OPERATION CAMP IN CHURCHILL," Government of Manitoba, http://news.gov.mb.ca/news/index.html?archive=2007-10-01&item=2394 (accessed Apr 14, 2008).

[83] Don Campbell, "Licensure Approach" (email, 2008).

The National Office of Health Emergency Response Team (NOHERT) has, in close collaboration with HUSAR, (under Letter of Understanding) undertaken the challenge of negotiating pre-approval of designated health emergency professionals to ensure licensure and good standing information are available in the event of a deployment.[84] NOHERT has achieved an agreement -in-principal, with all provincial colleges of physicians and surgeons, to develop standardized forms permitting registrars to disclose information to expedite provincial approval in the event of HUSAR activation.[85] NOHERT intends to use the model employed with the colleges of physicians and surgeons with eight other regulated professions, including Respiratory Technologists, Laboratory and Diagnostic Imaging Technicians, Pharmacists, Nurses, Paramedics, Psychologists and Social Workers. [86]

As highlighted in the Proceedings of the Standing Senate Committee on National Security and Defence in February 2007, there is a genuine concern regarding the funding gap as the program evolves through the equipment purchase stage to an operating stage.[87] Money was set aside originally for the requirement to pay for ongoing equipment replacement. The challenge now is to secure operating and maintenance funds to pay for personnel in the event of a deployment of a HUSAR team.[88]

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[84] Ibid.

[85] Ibid.

[86] Ibid.

[87] The Standing Senate Committee on National Security and Defence, *Proceedings of the Standing Senate Committee on National Security and Defence, Issue 9 - Evidence, February, 2007, Morning Meeting,* Issue 9 sess., 2007. http://www.parl.gc.ca/39/1/parlbus/commbus/senate/Com-e/defe-e/09evc-e.htm?Language=E&Parl=39&Ses=1&comm_id=76 (accessed Apr 14). Senator Kenny is the Chairman for the Standing Senate Committee on National Security and Defence.

[88] Ibid.

Currently HUSAR teams work under signed MOUs within their respective provinces. Unfortunately, none of the MOUs between the federal government and the provinces have been ratified. This has the potential, in the event of a real incident, to delay the deployment of a HUSAR team to an affected area of operation.

In an effort to rectify the most significant challenge of deploying a HUSAR team to an incident site by air, the Government of Canada (GoC), in consultation with appropriate partners and stakeholders, developed the HUSAR deployment strategic contingency plan.[89] In the event of an the air deployment of a particular HUSAR team, the members of the team and their necessary equipment must be ready to deploy from an airport within six hours of being activated and arrive at the incident site within eighteen hours.[90] The teams vary in size between 56-76 personnel and they are mandated to be self-sufficient for at least 72 hours, and capable of operating 24/7 for a duration of 10 days.[91] Each team's equipment cache requires 12 standard commercial air lift pallets.[92] Toronto's HUSAR team indicated in fall 2007, that their intention was to discuss airlift options with the Department of National Defence in an effort to mitigate this challenge.[93] Although there are challenges in the development of this national capability, there is determination by the GoC to alleviate all obstacles inhibiting a HUSAR deployment when required.

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[89] PSEPC Plans and Major Events, *Government of Canada HUSAR Deployment Strategic Contingency Plan, Version 13 (Draft)*, 1-17

[90] Ibid., 3.

[91] Ibid., 3.

[92] Ibid., 3.

[93] Laura King, "Disaster Management: HUSAR Teams, Governments Stage Mock Terrorist Attack," *FIREFighting in Canada: Canadian Firefighter and EMS Quarterly,* 2007, http://www.firefightingincanada.com/content/view/1662/185/ (accessed Apr 08).

Conclusion

Canada has taken great strides in the development of a national HUSAR capability. As was shown, it is important for a nation to possess a deployable, self-contained, well equipped and operationally exercised Heavy Urban Search and Rescue capability. In the event of an emergency, without the clear leadership and expertise of the HUSAR teams, many victims will suffer needlessly and key forensic evidence may be lost. As detailed in this paper, Public Safety Canada has done an admirable job providing the critical National guidance, financial framework and coordination to effectively create a synergetic disaster response network for Canada. This network continues to refine its capabilities while concurrently expanding.

As demonstrated in exercise MARCH FORWARD, existing Canadian HUSAR teams are able to operate in a multi-agency rescue operation following a catastrophic disaster with little or no restrictions. Although, there are some challenges such as the regulatory constraints of the medical profession, and the ratification of MOUs, there continues to be progress in meeting these deficiencies. The most critical hurdle to be overcome remains the inability to guarantee air deployability for the HUSAR teams and their equipment caches to an affected area in a timely manner. This limitation may be mitigated through a robust MOU between PSC and the Department of National Defence. The potential pre-positioning of an additional HUSAR equipment cache at CFB Trenton to facilitate a more responsive deployment of essential life-saving equipment could be an area for additional research. Dr.Granatstein was right to highlight that disaster response is a genuine concern. However, Canadians be assured that in the case of a disaster requiring

HUSAR, our country possesses an initial capability that is organized, robust, and ready to deploy.

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