



## Contents

- I. Executive Summary
- II. Agenda
- III. Introduction
- IV. Speaker's Presentations
- V. Roundtable Discussion
- VI. Panellist's Presentations
- VII. Conclusions

## RGI

*The Regulatory Governance Initiative (RGI) at Carleton University builds on the proven track record of Carleton's School of Public Policy and Administration to develop regulatory capacity and competence through research, education, and dialogue. Its scope is regulatory policy, governance, and management. Its approach is holistic and problem-driven. The RGI assembles expertise from the humanities, social and natural sciences as needed.*

# Critical Conversation on Occupant Management and Re-occupancy of Buildings After Bio-terrorism\*

**Report of Event Proceedings\*\***

**Room 2017, 20th Floor Dunton Tower, Carleton University**

**February 23rd, 2012**

\*This workshop was a multi-centre partnership, in part supported by the Centre for Security Science and Health Canada.

\*\* Report drafted by Adams, Fraser, Miller, Nadolny & Slater on March 19<sup>th</sup>, 2012.



## I. Agenda

8:00 a.m. Light Breakfast

8:30 a.m. Opening Remarks: Dr. **Susan Phillips**, Director, School of Public Policy and Administration at Carleton University

8:40 a.m. Participants Roundtable and Speaker Introductions (by Dr. **J. David Miller**)

9:00 a.m. *Responding to and Recovering From a Biological Attack: Lessons Learned Since the 2001 Anthrax Attacks?:* **Dr. Dorothy A. Canter**, Principal of Dorothy Canter Consulting LLC

9:15 a.m. *Sociological Perspectives on Responses to Regulation and Danger:* **Prof. Ruthanne Huising**, McGill University

9:30 a.m. *The Difference between Planning and Preparation:* Dr. **Robert Slater**, Director of the Regulatory Governance Initiative

9:45 a.m. Break and Refreshments

10:00 a.m. Introductions to Roundtable Work (by Dr. **Robert Slater**)

10:05 a.m. Roundtable Discussions

10:45 a.m. Plenary Discussion and Voting Exercise (by Dr. **Robert Slater**)

11:30 a.m. Panel Discussions: Dr. **Edward Ellis**, Medical Consultant, Ottawa Public Health; **Anne Mackenzie**, Consultant, Food Safety and Animal Health

12:30 p.m. Closing Remarks by Dr. **Robert Slater**

## II. Introduction

On February 23rd, 2012, the Regulatory Governance Initiative (RGI) and Carleton University's School of Public Policy and Administration (SPPA), held a Critical Conversation™ on Occupant Management and Re-occupancy of Buildings after Bio-terrorism. In attendance were people from different departments and levels of government, academics from key universities, and private sector representatives.

The conversation began with an introduction from Dr. Susan Phillips, Director of the SPPA at Carleton University. Dr. Phillips explained that RGI began convening Critical Conversations™ four years ago to assist both the regulators and regulated grapple with an increasingly complex regulatory environment.

*"Regulatory measures were tough enough in simpler times. Today we are faced with issues of globalization, unprecedented rates of technological innovation, changing public expectations and a sense of the interdependence of decisions but little understanding of how to manage it. And then, of course, there are surprises. Matters that were assumed to be well in hand, adequately regulated and supervised may suddenly jump up with unexpected regulatory gaps or failures, and lack of coordination – as can be the case with the issue we will discuss today"*  
Dr. Susan Phillips.





These gatherings, as she explained, offer the advantage of independence, objectivity, non partisanship and embrace new thinking. They are an opportunity to talk and learn from others that should be getting together but rarely do so. Additionally, as the name implies, they deal with critical issues – those that are timely and of significance – the kind that keep public servants, business and other leaders awake at night.

*"RGI and SPPA recognize that getting the regulatory regime right is important for safety, security, health, environmental and competitiveness reasons and getting it efficient and effective represents a comparative advantage for all Canadians"*  
*Dr. Susan Phillips.*

This introduction was followed by a brief overview of the Agenda by Dr. Robert Slater, and the introduction of the speakers by Dr. David Miller:



**Dr. Dorothy Canter,** internationally recognized expert in decontamination of biological agents and in preparedness activities for responding to and

recovering from attacks with weapons of mass destruction. She played an important role in the fumigations of contaminated buildings following the 2001 anthrax attacks. Dr. Canter has published widely in the peer-reviewed literature on anthrax remediation and risk assessment. She also has in-depth experience in assessing toxicity of environmental chemicals and performing risk assessments of exposed populations. She currently is the principal of Dorothy Canter Consulting LLC.



**Dr. Ruthanne Huising,** an assistant professor in the Desautels Faculty of Management at McGill University. Dr. Huising's research focuses on how organizations respond to pressures from regulators and management consultants to reorganize. Through ethnographic studies of organizational change initiatives, she analyzes the material and discursive practices through which managers develop the capacity for and, in some cases, the commitment to change but also the ways in which professionals, by controlling knowledge and relationships, may attempt to maintain the status quo. In 2011, she was awarded a young researcher grant from the "Fonds de Recherche sur la Société et la Culture" of Quebec (FQRSC)



**Dr. Robert Slater, C.M.** currently an Adjunct Professor in Environmental Policy at Carleton University and the Executive Director of RGI. He currently serves as Interim Chair of the

National Round Table on the Environment and the Economy. He is also President of Coleman, Bright and Associates, a consulting firm that operates internationally specializing in Sustainable Development issues and a Senior Fellow with the International Institute for Sustainable Development. Dr. Slater occupied several senior positions at Environment Canada and was the Senior Assistant Deputy Minister for eight years. He was instrumental in establishing the International Institute for Sustainable Development, and played a lead role in the renegotiation of the Great Lakes Water Quality Agreement in 1978, Acid Rain Agreements with Provincial Governments in the 80's, the Canada-US Accord on Air Quality, and the Green Plan. He was appointed a Member of the Order of Canada in 2009.





### III. Speaker's Presentations

#### a. *Dr. Dorothy Canter*

Dr. Canter introduced her presentation with "Anthrax: Responding to a Crisis", a video/photo depiction of the cleanup and remediation in the four buildings that were contaminated with anthrax in the United States in 2001 (American Media, Inc. building in Boca Raton, Florida; the National Broadcasting Company offices in New York City; the U.S. Capitol Complex in Washington, DC; and two facilities of the U.S. Postal Service).<sup>1</sup>

Dr. Canter's presentation focused on building remediation, with an emphasis on key lessons for future preparedness. Highlights of her presentation included the types of cleanup involved and the economic consequences of such events.

The two types of cleaning were:

- Small scale surface cleanups using liquid decontaminants (i.e. bleach), best suited for sites with limited superficial contamination (e.g., contact with mail)
- Large scale cleanups, where fumigations comprise the primary decontamination process. In such sites the presence of aerosolizable spores were demonstrated by cases of inhalational anthrax, environmental sampling results, and lab studies on recovered spores.

Regarding the economic consequences, Dr. Canter highlighted that the buildings were closed for between three months to more than four years, and the cleanup costs ranged between \$200,000 - \$200,000,000. Two of the reasons why the cleanup took so long in some of the buildings were: (a) that there was one company with the necessary equipment to complete the work, and (b)

the length of time necessary to resolve what to do with the building.

#### **KEY LESSONS LEARN FROM THIS ATTACK:**

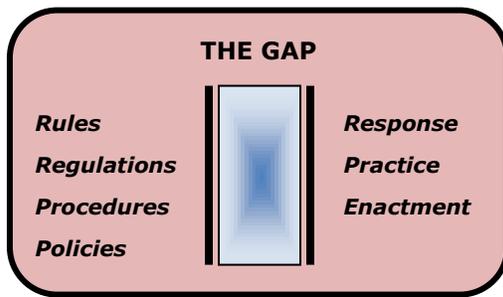
- Need to evaluate all sites on individual basis
- Multi-disciplinary, multi-agency response needed.
- Key role for scientific advisory panels in adding credibility to recovery process/re-occupancy
- Environmental sampling key at multiple stages of remediation process
- For large sites an online data management system should be promptly established for very large volume of sampling and other data to be generated/analyzed/used for decision-making
- For sites with aerosolized B.a. spores, fumigation is default remediation process.
- 24/7 cleanups needed for critical infrastructure
- Disposal of decontamination waste will be very challenging (NIMBY) and costly
- Need to comply with all federal/state/local regulations for transportation of waste
- Communication with media, stakeholders, public, and relevant agencies crucial throughout response and recovery processes
- Future remediation processes in large buildings that include fumigations will be complex, quite time-consuming and very costly





## b. Dr. Ruthanne Huising

Dr. Huising provided a sociological perspective on responses to regulation and danger. She argued that there is often a loose coupling between the *Aspired Response* and the *Actual Response* to danger and threats. At times, these processes can be decoupled. The outcome is a gap between what policymakers expect (regulations, rules, procedures, policies, plans) and how humans react, especially when faced with rapidly changing conditions.



In studying this gap, ethnographers have concluded that in these situations desirable outcomes can occur because workers do not follow predetermined protocols or designs but interpret rules, adapt resources to innovative uses, develop workarounds and invent routines that come to constitute the functioning organization.

### HOW TO ADDRESS THE GAP

*While the tendency is to think about closing it, research suggests that we should consider it as the space where important responses occur and that we should focus on how to manage and/or govern it.*

*Dr. Ruthanne Huising*

Dr. Huising's presentation also provided insight into human cognition. How people understand a dangerous situation is

affected by cultural and social processes. Interpretations are informed by experience, observation, and interactions with others. In the face of uncertainty and threat, the established frameworks for interpreting and responding to cues are disrupted resulting in a shift from *decision making* to *sense making*. In this shift the individual tries to create order and make sense of a situation while managing the consequences of atypical scenarios and unpredictability.

### HOW TO GOVERN THE GAP

- Bricoleurs: experienced individuals improvise using materials at hand
- Virtual Role System: assume whatever role is vacant, pick up the activities, and run a credible version of the role
- Protocol Breaking: wisdom to deviate from protocols under conditions of uncertainty
- Relational Regulation: identification and leverage of relational dependencies in the organization
- Responsibilization: devolving control to all members of the organization

## c. Dr. Robert Slater

Focusing on the lessons learned from two incidents - the Iceland volcano eruption of 2010 and the derailment of a chlorine bearing train in Graniteville, SC in 2005, Dr. Slater emphasized three points in his presentation: (1) system resiliency for the long term is vital; (2) communication merits the highest attention; and (3) prevention is always better than a cure.



## I. System Resilience

While there is a natural tendency to favour the results of rigorous analytical approach to risk assessment, predicting the probability of a surprise event is problematic and may even be counterproductive. What we need is to strive for the right balance between planning for specific events and those that are rare or unexpected and by their nature cannot be foreseen.

### WHAT SHOULD BE DONE?

- **Stress-testing risk mechanisms** - similar to what was done for banks, like capacity to absorb a sudden change in Libor rates, but for the government and civil agencies who would be players in a crisis response
- **Key players and decision makers:** ensuring that they (a) know what their individual and collective roles are, (b) know how to work with each other, and (c) get together often and update their contacts to preserve system efficiency and effectiveness in light of rapid turnover personnel
- **Technical capacity:** ensuring that (a) we have access to the right scientific and technical evidence and experts, (b) the equipment we have is fit for purpose and has been field tested, and (c) we are prepared to deal with issues in rural and remote areas not just in Canada's big cities where the majority of the people and the equipment reside
- **Best practices:** ensuring (a) that we know what they are, and (b) that after an event we undertake post mortems and make them publically available

## 2. Communications

Any evaluation of an incident places high importance on communicating information in a timely way and in an accessible manner to those who need to know. Failures in the flow of information seem to be one of the most obvious system failures in the evaluations of past practices.

### WHAT SHOULD BE DONE?

- Develop a **stress response test** on the communication system
- Design and implement '**dark sites**' ready to be activated when needed with all the protocols for managing information flow, availability of experts, social media already in place and built to best practices standards
- Ensure that **interoperability protocols** for all players with significant roles in all governments and the private sector are well tested
- Study how to ensure that the **different information needs** of the system 'architects, managers and operators' function seamlessly
- Further study the role of **social media**

## 3. Prevention

Intelligence services have a wide mandate these days to look at risk stressors such as climate change, the resilience of critical infrastructure as well as the ambitions of those who seek political goals through violence. We all depend on them to obtain and sensibly disseminate



information which would serve the public interest at the level of both a specific threat and a more systemic one.

#### WHAT SHOULD BE DONE?

- Identify potential ways for the **intelligence agencies** to distribute the right information to the right audiences so that informed decisions can be made
- Assess whether **standard setting processes** can more generally contribute to system resiliency
- Study the possibility of placing this topic on the **syllabus** of science, business, and/or political science faculties

The plenary broke into groups of 7 or 8 people to have a free and unfettered discussion lasting approximately one half hour. Chairs reported to the plenary on the top answers to the outlined challenges. Participants then had the opportunity to vote in favour or opposition to the suggestions.<sup>2</sup>

The following is a summary of the top seven priorities identified by the participants ranked, in order, according to the number of votes received:

- Improve state of preparedness by investing in real life **exercises/drills**
- Identify **scientific and technical expertise available**, understand it and integrate it into potential capacity
- Recognize that **awareness, education and confidence building** of public is ongoing
- Know the type of **expertise required** at each critical step
- Need **evidence based research** to fill knowledge gaps and support/negate intuition surrounding standards or best practices
- Need to conduct **gap analysis** with all/broad stakeholders in order to conduct real strategic long term planning of priorities, resources, and equipment expenditures
- **Social media** management

## IV) Roundtable Discussion

Following the keynote speakers, a roundtable discussion was held to answer what is the top policy priority/action required to address each of the three following challenges:

1. **Ensuring that we have the scientific and technical capacity to deal with each of the critical aspects of a bio-terrorist event;**
2. **Ensuring that roles and responsibilities are known, understood, and practical;**
3. **Ensuring the achievement of social consent throughout the entire process, concluding with the re-occupancy of the decontaminated building**

The only suggestion that received a substantial negative indication was the need for an organization like the Federal Emergency Measures Agency (FEMA) in the United States to lead response, follow-up and recovery.





## V. Panellist's Presentations

The morning concluded with a panellist discussion by Dr. Anne McKenzie and Dr. Edward Ellis based on the discussion paper - MacKenzie & Adams (2012), "Bioterrorism and Occupant Management: Knowledge Gaps and Policy Challenges,"<sup>3</sup> the presentations and the round table discussion.



**Dr. Anne A. MacKenzie**, an independent consultant working in the areas of animal health, food safety and emergency management. Dr. MacKenzie had long career in the Public Service of Canada. She worked with Health Canada and Agriculture and Agri-Food Canada in positions of increasing responsibility. With the formation of the Canadian Food Inspection Agency she was appointed Associate Vice President for Science. Dr. MacKenzie also has extensive international experience having, for many years, chaired the FAO/WHO Codex Committee on Food Labelling. She also was the Coordinator and Editor of the 2005 OIE Scientific and Technical Review on The Applications of Biotechnology in Animal Health and has represented OIE at both FAO/WHO International Biotechnology and Nanotechnology Conferences. She has also done OIE PVS Evaluations in Turkey, Swaziland and Timor Leste. Dr. Mackenzie obtained degrees in Medical Laboratory Technology, Science, Veterinary Medicine and Veterinary Preventative Medicine.



**Dr. Edward Ellis** retired from the Public Health Agency of Canada in June, 2011 where he was Manager of the Tuberculosis Prevention and Control Program since 2002. He is currently a short-term medical consultant in communicable disease

and environmental health at Ottawa Public Health. Previous positions include Health Canada's Chief of Quarantine, Travel and Migration Health and Associate Medical Officer of Health with Ottawa Public Health for 12 years where he dealt with communicable disease prevention and control, environmental health and emergency response among other topics. He earned his Masters of Public Health degree at the University of Michigan, has a Royal College fellowship in public health and preventive medicine and is an Adjunct Professor in the Department of Epidemiology and Community Medicine at the University of Ottawa where he teaches communicable disease control and critical appraisal. He has also worked in rural public health in Malawi, Alberta provincial public health, Toronto Public Health and communicable disease epidemiology at Health Canada.

### a. Dr. Anne A. MacKenzie

For her contribution, Dr. MacKenzie focused on the importance of strengthening the "preparedness pillar" of Emergency Management. In particular, she emphasized the importance of identifying and having collaborative arrangements with scientific and

*Ultimately, when dealing with uncertainties, assumptions become the critical issue at hand.*  
Dr. Anne A. MacKenzie

technical experts in this subject area. These experts should be consulted when making operational decisions after a bioterrorist attack. She also argued about the need to engage responders and stakeholders in well-designed exercise scenarios to work through the policies and procedures that are necessary to ensure, to the extent possible, a successful outcome. These exercises would give participants an element of confidence that could be critical to their response to a real life threat.





## b. Dr. Edward Ellis<sup>4</sup>

Reflecting on the day's proceedings Dr. Ellis produced a list of recommendations on the issues that he believes are the most pressing. These recommendations addressed: (a) how to improve the preparedness of workplaces, first responders, and government officials to a potential attack; and (b) how to improve the response both during the incident and after.

*"A national plan for CBRNE response which meets constitutional, federal financing and other governmental requirements must be in place as soon as possible in order to allow quick response during an event"*

*Dr. Edward Ellis*

### **DR. ELLIS RECOMMENDATIONS FOR INCREASING PREPAREDNESS**

- All public and private employers (especially for large workplaces) need to have an all types emergency management plan. This plan should include: (a) a plan for new and current staff orientation; (b) a sign posted next to each telephone, in workplaces at higher risk of bioterrorism attack, providing direction on what to do if a package is opened and a suspicious powder is seen; and (c) a business continuity plan, including alternative work site(s) in the event that contamination requires lengthy clean-up.
- Canada-wide CBRNE protocols for responding to incidents should apply to all relevant workplaces and be enforced either through legislation (federal, provincial, and/or territorial), or as a contract requirement when a private organization deals with a government organization.
- Local level first responder and other agencies involved in CBRNE response need to meet regularly. Membership is based on function, rather than specific person. This allows continued orientation of new persons in the role. It also allows a trustful working relationship to develop which expedites effective response to an incident.
- On-the-ground first responder operational exercises need to occur on a periodic basis. Senior management table top exercises are useful but do not fulfill this particular need. Such exercises can be expensive. However, pooling of resources from the various local member organizations can fund it.
- More sensitive and specific on-site rapid detection tools are needed to reduce the need for confirmatory lab testing before releasing potentially exposed persons when the substance is not dangerous. Until such tools are available in the field, rapid confirmatory lab testing is necessary to minimize disruption to potentially exposed persons. We are fortunate in the Ottawa area to have a national lab here. Other areas in Canada need rapid access also.
- Standards for remediation of buildings following an exposure need to be developed if not existent in Canada. They should include how to do it and who pays for remediation.





## DR. ELLIS RECOMMENDATIONS FOR A BETTER RESPONSE

### ***During an incident:***

- It is crucial to limit the spread of the agent from those initially exposed to secondary persons. The Federal Quarantine Act applies only to persons crossing the Canadian border and will help only in very special circumstances. Local public health authorities may be able to write quarantine orders when someone may be incubating a disease and may become infectious before onset of symptoms. Otherwise, quarantine orders are not indicated. It may be necessary, however, to order isolation.
- The exposed who are not treated at the site need to be registered promptly (in case further contact with them is needed), advised when and where to go if symptoms develop and given a phone number to call for further information. Such agent specific handout information needs to be developed ahead of time and available for distribution in paper or electronic format.
- A media conference once or twice daily should occur with speakers for the various agencies involved and relevant, respected non-governmental experts. One on one interviews with media outlets during the intense response phase take up time better devoted to other matters and increases the chance of conflicting information leading to loss of credibility with the public. During the media conferences, speakers should be as candid, easy to understand, complete and accurate as possible. Risk communication guidelines developed by the World Health Organization for outbreaks apply well to CBRNE events.

### ***After the incident:***

- In terms of remediation someone needs to monitor and enforce the standards during work. A Science Advisory and an Environmental Clearance Committee need to be struck as part of the initial response. A list of potential members of such groups can be developed during the development/refining of Standards and maintained by the federal government.
- Considering the fact that such events become a federal responsibility police wise, (RCMP jurisdiction), that such events will be rare but potentially very costly, and that insurance policies for non-government premises may not pay all or part of remediation, the federal government should pay for remediation when there is no other reasonable source of funding.
- Following each incident, a standard publicly available report should be issued regarding what happened, the adequacy of the response and what changes (if any) need to be made to respond better next time. The report should be as transparent as possible, only limited as necessary by national public security considerations.





## VI. Concluding remarks

Dr. Slater concluded the discussion with a few comments on the Critical Conversation™ dialogue. He commented on the many similarities in the priorities identified by different groups. The two critical issues identified by the group were:

- ***The need to identify in advance the scientific and technical experts able to help local authorities, and***
- ***To develop evidence-based research to identify best practices for all aspects of an event.***

A number of attendees commented that this expertise needed be developed in a deliberate way and emphasize university and industry scientists, engineers and technical experts. This might involve investments in small to medium sized research projects covering various aspects of the detection, management and remediation process. This approach might enable the other top few priorities to be addressed and allow the “roster” that is obtained to be continuously maintained.

The other theme in the final discussion was how to integrate local capacities with the federal agencies. In the US, FEMA helps to build and sustain capability to prepare, respond and recover from various disasters. In Canada, the constitution divides these powers between governments and each province has its own system. In most cases, recovery costs are addressed on a case by case intergovernmental basis. This suggests the on-going need to develop effective working strategies. One example of a problem is the ability of local first responders, including Public Health, to assess and decontaminate large numbers of people at the site of an event.

**For more information on this event, including the discussion paper and the speakers’ powerpoint presentations, please visit RGI’s website:**

**<http://www.regulatorygovernance.ca/>**

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<sup>1</sup> Remediation of the AMI and NBC buildings was done by private companies; government agencies led the remediation effort in the Capitol and USPS buildings.

<sup>2</sup> Each participant had 3 green dots to support the answers given, and 1 red dot to express concern with an answer.

<sup>3</sup> In order to get all the participants on the same page and to focus the discussion on the issues that are of greatest interest to practitioners, RGI commissioned a discussion paper that was circulated to participants one week in advance of the event. The paper can be found in RGI’s website: <http://www.regulatorygovernance.ca>.

<sup>4</sup> Dr. Ellis’ personal comments may or may not represent the official views of Ottawa Public Health

