

Technical Report

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Towards a Canadian Responder Equipment Advisory Board (CREAB)

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Prepared by

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For the:

Canadian Police Research Centre

Acknowledgements

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TOWARDS A..... CANADIAN RESPONDER EQUIPMENT ADVISORY BOARD (CREAB)

Consolidated Report from Consultative Sessions

Calgary CollaBoRatioN Conference Blackfoot Inn, November 3rd, 2007

Atelier CCEPIC, Montreal CTI/First Responders Conference Place Bonaventure, December 6th, 2007

By Al Parisien and René Marchand

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Introduction - Calgary:

The Calgary CollaBoRatioN Conference held November 1 - 4, 2007, was a unique event in that it was developed by the tri-service (fire, paramedic and police) agencies of the City of Calgary. It was, on the other hand, a national conference in that first responders from coast to coast were welcomed and a diverse sampling of 158 grass-root responders representing numerous locations in the country attended. The theme of the conference was collaboration and this was principally in the context of CBRN response.

The Canadian Police Research Centre (CPRC) took advantage of the occasion of the conference as a means to introduce itself and its mission. In addition to this, CPRC held an interactive discussion with 68 of the conference attendees to explore the concept of a Canadian Responder Equipment Advisory Board (CREAB).

Introduction - Montreal:

The second annual edition of the Montreal CTI / First Responders Conference was jointly sponsored by the Canadian Textile Institute and the Canadian Police Research Centre (CPRC). The primary objective of this conference was to promote better collaboration between the industry and first responders. Within this context, a second interactive discussion was held to explore the CREAB concept (total audience of 160, 38 participated in the discussion). This second discussion involved a sampling of the protective clothing industry and a cross-section of the first responder community.

The Montreal CTI Conference provided a unique opportunity to explore future challenges, collaboration between industry and responders, and to introduce the audience to the expanding mission of CPRC. The CREAB or CCEPIC (Comité consultatif sur les équipements des premiers intervenants canadiens) dialogue session was held primarily in French in Montreal and while the Calgary event was in primarily in English.

Background:

1. The Interagency Board (IAB) in the US was established in 1998 to identify equipment and capabilities required by first responders to counter CBRN terrorism incidents. The IAB has become the link between first response organizations and science, academia and industry. It has become a strong, consolidated voice for first responders; especially where it is required to interact with Federal counter terrorism programs and initiatives. The IAB is broken into the following committees and subgroups to address the mission areas that it engages currently:

Standards Coordination Committee
Science& Technology Committee
Compatibility & Interoperability Committee
Personal Protective & Operational Equipment Subgroup
Interoperable Communications & Information Systems Subgroup
Detection & Decontamination Subgroup
Medical Subgroup
Training Subgroup

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- 2. In October 2005, the CPRC and Canadian Standards Association (CSA) worked together to consider the value that a responder panel might add where equipment standards are concerned. Since that time these organizations have contributed toward developing a National CBRN Personal Protective Equipment Standard. A primary challenge to developing this Standard is that it is difficult to ensure the consistent participation of representatives across first responder disciplines and organizations.
- The Federal budget in February 2006 provided new funding to the CPRC in recognition of its contribution and success in serving the police community. The mandate of CPRC is evolving to include both the police and the broader public safety constituencies.
- 4. In Canada, the development of CBRN contingencies has highlighted the necessity for collaboration across all levels of government and between emergency response agencies. Progress has been accelerated where cooperation, collaboration and partnerships are strong.

The CREAB Concept:

What's a CREAB?

"An Official First Responder (paramedics, fire, police) Group, which includes representation from both the Chiefs Associations and their Membership Associations, assembled for the purpose of accelerating the development of technology and accompanying operational protocols."

The CREAB workshop was conducted to introduce the fundamental idea of a CREAB and stimulate discussion around some of its potential mission areas. Feedback from responders as to potential value, shape, form, structure, buy-in, barriers, challenges, pit falls etc. are important in the infant, foundational stage of development. The CREAB is presently an idea for exploration. Some key questions are:

Would Canada benefit from establishing a group similar to the US - IAB which would provide a unified voice for first responders?

Should such a group be engaged from the broader "all hazards" perspective?

What might be the mission's areas of such an entity?

What would it look like?

How might it work?

Four hypotheses were presented during the CREAB workshop to initiate discussion relative to the requirement for and potential role of a CREAB. These hypotheses were extremely open-ended and rather complex. The intention was to gather the thoughts of individual participants as well as the key messages of small groups around the central issues. The hypotheses were to set a course for discussion without limiting or leading the responses. The participants were advised that the objective was not to derive consensus on issues or to garner support or validation for the concept of establishing a CREAB but rather, the objective was to explore the concept and gather diverse feedback and reaction to the concept in general.

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Part 1: CREAB Workshop Participant Demographics

1. Self-identification was optional for workshop participants

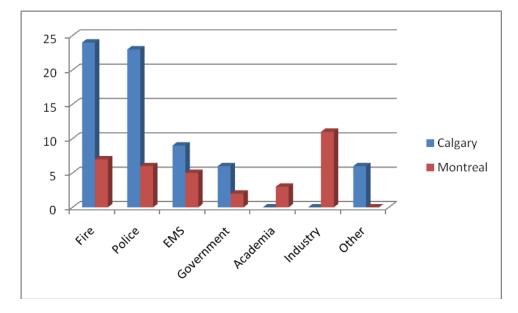
Calgary: 53 self identified / 15 did not, total = 68

Montreal: 34 self identified / 0 did not, total = 34

TOTAL: 102

2. Service Orientation

	Calgary		Montreal	
Fire	24		7	respondents
Police	23		6	respondents
EMS	9		5	respondents
Government – Check one of the following		Muni_1	Prov_2 Terri_0	Fed_5 Abor_0
Academia	0		3	respondents
Industry	0		11	respondents
Other	6		0	respondents
Subtotal	68		34	respondents
TOTAL		102		respondents



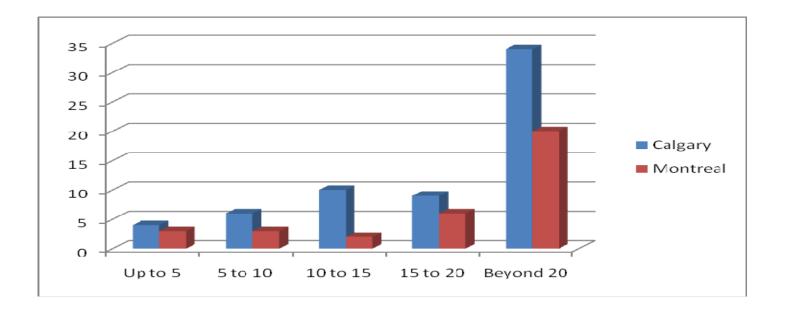
*Key Points – good sample size, good variety, EMS numbers low as compared to other two services. The industry sample in Montreal produced valuable feedback that was not available in Calgary.

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3. Years of Experience

	Calgary	Montreal	
Up to 5 5 to 10 10 to 15 15 to 20 Beyond 20	4 6 10 9 34	3 3 2 6 20	respondents respondents respondents respondents respondents
Subtotal TOTAL	63	34 97	respondents respondents



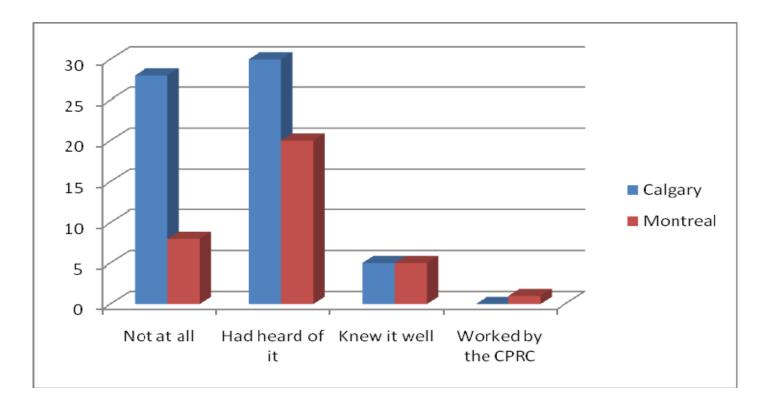
^{*} **Key Points** – Most participants, at the two conferences, were very senior in service. 5 persons did not answer.

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4. How well did you know the Canadian Police Research Centre (CPRC) prior to this conference?

	Calgary	Montreal	
Not at all	28	8	respondents
Had heard of it	30	20	respondents
Knew it well	5	5	respondents
Worked on a project managed by the CPRC	0	1	respondents
Subtotal	63	34	respondents
TOTAL	g	97	respondents



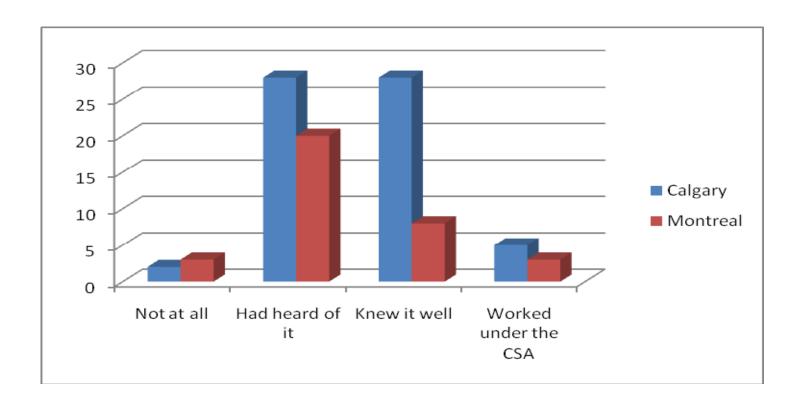
^{*}Key Points – Conference was a valuable communications opportunity for CPRC to bring its mission to grass root first responders. At Montreal conference, CPRC was better known. 5 persons did not answer.

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5. How well did you know the Canadian Standards Association (CSA) prior to this conference?

	Calgary	Montreal	
Not at all	2	3	respondents
Had heard of it	28	20	respondents
Knew it well	28	8	respondents
Worked on a standard project under the CSA	5	3	respondents
Subtotal	63	34	respondents
TOTAL	9	7	respondents



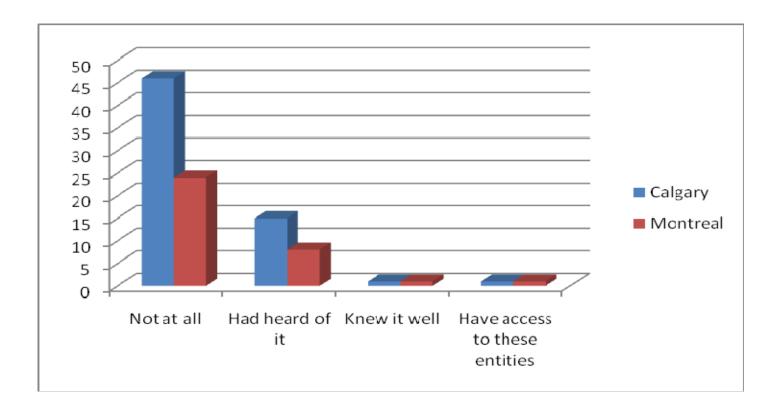
^{*} **Key Points** – CSA is better known than the CPRC, recognized in its market space. The workshop was a minimal opportunity to introduce CSA but excellent opportunity to announce partnership between organizations. Calgary and Montreal results are comparable. 5 persons did not answer.

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6. How well did you know of the U.S. Interagency Board, Memorial Institute for the Prevention of Terrorism and the Responder Knowledge Base?

	Calgary	Montreal	
Not at all	46	24	respondents
Had heard of it	15	8	respondents
Knew it well	1	1	respondents
Have access to the entities, work with them and use	1	1	respondents
them as a resource			
Subtotal	63	34	respondents
TOTAL	Ş	97	respondents



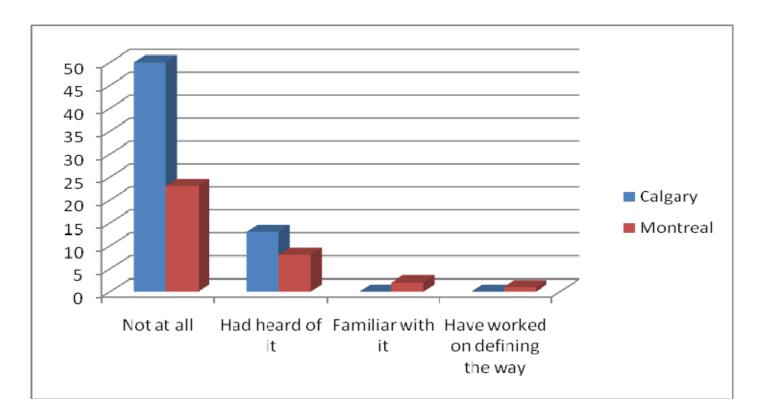
*Key Points – CREAB concept cannot be introduced on the basis of a common understanding of US work in the same area. Many respondents were interested in access to the IAB and RKB. Calgary and Montreal results are comparable.5 persons did not answer.

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7. Are you familiar with CREAB concept?

	Calgary	Montreal	
Not at all	50	23	respondents
Had heard of it	13	8	respondents
Familiar with it	0	2	respondents
Have worked on defining the way forward for this type of entity	0	1	respondents
Subtotal TOTAL	63 9	34 97	respondents respondents



***Key Points** – Little or no familiarity with the CREAB concept. Communications required. Calgary and Montreal results are comparable. 5 persons did not answer.

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Part 2: Hypothesis

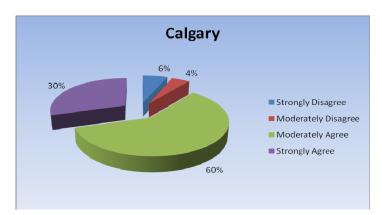
Hypothesis Reference Number: Calgary and Montreal 07-01

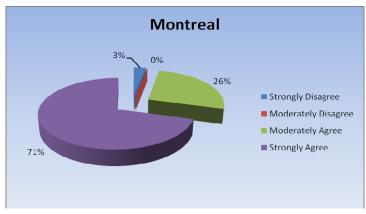
"OFR organizations rely on government, science, engineering, academia, and industry to create and provide new technology for safe and effective operations. In modern times, technology is part of any comprehensive solution to ongoing or emerging challenges."

Calgary

Strongly Disagree	4
Moderately Disagree	3
Moderately Agree	40
Strongly Agree	20
Subtotal	67
TOTAL	101

Note: 1 person did not answer





Montreal

1

0

9

24

34

respondents

respondents

respondents

respondents

respondents respondents

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* Sample of Key Points (paraphrased for context) - Calgary

- 1. It is the "boot strap" user that knows what is lacking. It is what they don't know and can't find out that is important.
- 2. It is essential to integrate industrial standards across the tri-services and this might be a benefit of a CREAB.
- 3. Any initiative that drives development from "where the tires hit the road' is good.
- 4. Disconnect between end user and technologies?
- 5. I think first responders need to be in the process otherwise aspects of R&D are being missed and complicated without them.
- 6. National independent perspective will allow depts. to bypass political issues. National direction may slow progress down.
- 7. A fair bit of innovation lies with first responders. We identified a multitude of items that are proprietary to our departments.
- 8. Investment in technology is an investment in the future.
- 9. Usually OFR groups are consulted in small groups but not as a whole on needs.
- 10. How do good ideas get to the CREAB?
- 11.Protection of IP?
- 12. Allow end-users to rank priority of proposals.
- 13. Ask lots of questions and be prepared to listen.
- 14. There must be a relationship between OFRs and industry.
- 15. There has been a general lack of funding in the past and until recently a lack of political leadership to substantially move forward.
- 16. Timely delivery of needs is vital. i.e. not paralysis by analysis.
- 17. Too much reliance on technology can be dangerous. i.e. no training or loss of other skills.
- 18. There is a disconnect between responders and science & technology developers and experts.
- 19. Can be weighed down by bureaucracy.
- 20. The solution must be simpler than the problem.
- 21.A CREAB is a good idea. There are policy and practical issues attached. It should focus on the practical.
- 22.OFR groups have no capacity for R&D.

* Sample of Key Points (paraphrased for context) - Montreal

- 1. Collaboration between the OFR and the academic should be established in order to identify the best resources required for the OFR.
- 2. Consultation between the OFR and the industry is paramount in establishing the needs for the OFR.
- 3. Establishing a partnership with the industry in order to obtain the best products for innovation.
- 4. Consider the input from the OFR who are wearing on a daily base these products and are use in conjunction with technology.
- 5. The current products use by our fire department is a direct consequence of the collaboration we have with industry.
- 6. OFR should be considered on the committees in order to participate with the professional for the trial run of the different products, these tests will give greater credibility to the results.

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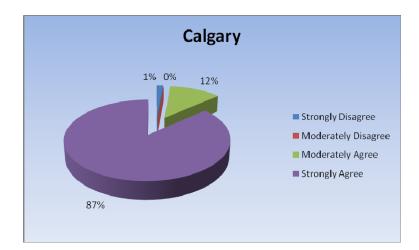
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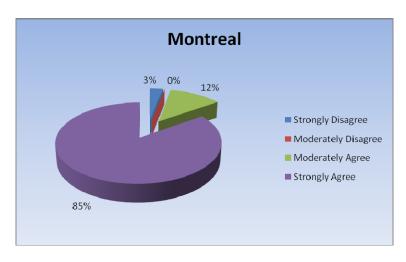
Hypothesis Reference Number: Calgary and Montreal 07-02

"It is imperative for new and available technology to be tested and evaluated so that it will provide reliable, specified performance within realistic operational contexts."

	Calgary	Montreal	
Strongly Disagree	1	1	respondents
Moderately Disagree	0	0	respondents
Moderately Agree	8	4	respondents
Strongly Agree	58	28	respondents
Subtotal	67	33	respondents
TOTAL	1	00	respondents

Note: 2 persons did not answer





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* Sample of Key Points (paraphrased for context) - Calgary

- 1. Industrial applications are "force fit" to first responder applications. This is not a good model.
- 2. Could result in a unified front and lead to common equipment.
- 3. Industry will operate at its own speed based on the global market. This works if the market is big enough.
- 4. Buyers, sellers and end-users must be connected.
- 5. Testing to identify practical use & need user-friendly. Consider end user input.
- 6. Should be tested by end-users.
- 7. Guidelines will allow a second look at equipment beyond what salesmen might tell you.
- 8. We want to play with equipment on the floor as part of the trial.
- 9. For safety things should fail well above stated capacity.
- 10. Lab testing should be supplemented by field testing.
- 11. Why have others test technology when we have been doing it on our own forever?
- 12. Field trials need to be in live situations.
- 13. Responders may come up with alternative criterion for testing.
- 14. Being able to field test equipment and help refine it is essential.
- 15. Publish a list of acceptable equipment.
- 16. Remember that 90% of Alberta and 80% of Canadian firefighters are volunteers but have no input.
- 17. There is a requirement for buy-in by Departments as well.
- 18. Test & Evaluation cannot be a long, drawn out process.
- 19. I don't want to be a Canary.
- 20. The problem with testing and evaluating in the field is often the paperwork burden. We need to find a way to make it easy for them to do the tests.
- 21. Many times limited to very few testing new technology.
- 22. Often selected based on cost.
- 23. New national T&E facilities are needed.
- 24. Test to procure is necessary.
- 25. Industry needs to be at the table.
- 26. Academic subject matter experts need to be present.

* Sample of Key Points (paraphrased for context) - Montreal

- 1. Yes, but it must also considered the conception facet.
- 2. The process of validation is imperative to the protection of the OFR.
- The process of testing in needed, but under emergency conditions to go along with controlled testing.
- 4. The equipment must be tested in a real environment, if this condition is not respected, than all this is futile.
- 5. Which tested standards are being adopted and applied for CBRN protective equipment?
- 6. Agreed, but it takes too much time (p ex: CBRN equipment).

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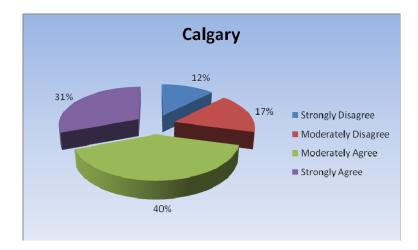
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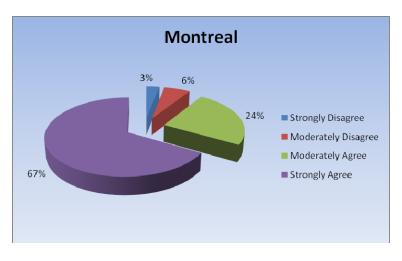
Hypothesis Reference Number: Calgary and Montreal 07-03

"Standards capture best practices, optimize safety, promote interoperability and establish the basis for the demonstration of professionalism, the exercise of due diligence, and the meeting of civil responsibilities."

Calgary	Montreal	
8	1	respondents
11	2	respondents
26	8	respondents
20	22	respondents
65	33	respondents
9	98	respondents
	8 11 26 20 65	8 1 11 2 26 8 20 22

Note: 4 persons did not answer





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* Sample of Key Points (paraphrased for context) - Calgary

- 1. This notion would reinforce collaboration.
- 2. Without Standards a lot of energy is spent re-addressing the same issues.
- 3. Standards are needed to establish common ground across jurisdictions.
- 4. Complicated, costly, duplication.
- 5. Do the work with existing groups.
- 6. It is not the Standards that capture best practices etc... It is the dedicated people who create and apply them.
- 7. True if Standards have the ability to change and be reactive to changing needs.
- 8. Sometimes people setting the Standards are too far removed from the job.
- 9. Becomes part of justification for spending on regulated and approved products.
- 10. Standards that require unrealistic financial/time/logistical commitment are often ignored or not adopted.
- 11.NFPA has already created this as a recommendation.
- 12. Some standards with input from industry tend to promote industry and not OFRs.
- 13. More front line involvement, not management in CREAB.
- 14.Implementation of Standards may vary to a particular agency's budget capacity, particularly if comprehensive training is required.
- 15.Go back to the end-user subject matter experts and work up from there.
- 16. Minimum standards yield minimum results.
- 17. Who enforces standards?
- 18. Standards need to be living documents.
- 19. Consensus is difficult.
- 20. There is confusion between Standards and Guidelines.
- 21. Sometimes Standards are too limiting.

* Sample of Key Points (paraphrased for context) - Montreal

- 1. Essential to establish standards that can differentiates between CBRN and Hazmat. They can be complementary but must be different.
- 2. Organisations considering adopting standards should consider carefully their rationale for doing so and have clear criteria for reviewing and assessing if a standard is working or not for them.
- 3. Standards should be based on experience and proper testing
- 4. Presently, the standards are difficult to understand and if the industry could create a guide book, it would simplify the language to the neophytes and help in understanding existing standards.
- 5. The actual standards are quite clear, but we should try to enhance them.
- 6. Should enable... sometimes standard become an obstacle and they limit innovation and initiative.

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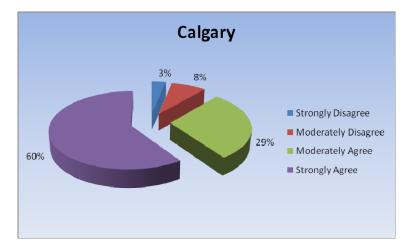
Hypothesis Reference Number: Calgary and Montreal 07-04

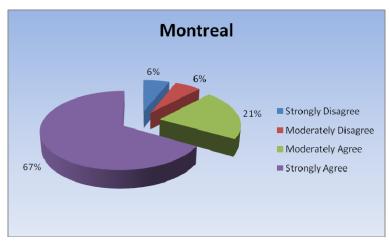
"OFR organizations understand that achieving standardization, interoperability, and current, comprehensive contingencies for "all hazards" is a significant ongoing challenge."

Caigary	IVIO	ontreal
Strongly Disagree 2		2 respondents
Moderately Disagree 5		2 respondents
Moderately Agree 18		7 respondents
Strongly Agree 37		22 respondents
Subtotal 62		respondents
TOTAL	95	respondents

Colgony

Note: 7 persons did not answer





Mantraal

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* Sample of Key Points (paraphrased for context) - Calgary

- 1. All levels must put differences aside to work to a common end. Cost effectiveness important.
- 2. Tri-services training would make it easier.
- 3. Part of the CREAB concept needs to involve creating awareness of the requirement for improvement.
- 4. Some departments may not see this as a challenge but as an ongoing growing success.
- 5. Coordination between Police/Fire/EMS needs to be at the top level as well as the bottom.
- 6. This is a key to success.
- 7. Have to have credibility.
- 8. Consensus and coordination is very difficult to achieve between first responder agencies because of tradition and differences in services. There is resistance.
- 9. Representation must come from all levels in an organization to be a valid.
- 10. Would there possibly be a conflict of interest between a CREAB and existing agencies?
- 11. We need to work towards this goal but we are a long way away.
- 12. Constant investment of resources is essential for the risk of a lack of contingencies for evolving hazards.
- 13. Funding beyond a particular agency is necessary to bring standardization about i.e. Federal funding must come into play as it relates to public safety.
- 14. Easy to say, hard to do.
- 15.Do all stakeholders want to be involved?

* Sample of Key Points (paraphrased for context) - Montreal

- 1. Practice interoperability, in order to insure that all OFR are capable to intervene in an efficient and unified fashion.
- 2. Standards must be simplified for OFR.
- 3. Industry confirmed during the trade show that medical and first responder standards are different. Then, why not integrated the two facets and work on the concept of garment, per example: shirt and pant, which would protect the OFR efficiently for bio agent (per ex: blood)?

* Key Points - Group Final Messages

- 1. Creation of recommendations vs standards limits the burden on small departments.
- 2. How much money is it going to take?
- 3. CREAB needs to be National diverse not an all Ontario weighting.
- 4. First responders must have a say directly.
- 5. Needs to be linked to Provincial and Territorial governments for legislation.
- 6. An equal voice for all.
- 7. Funding is essential.
- 8. Need for technology is paramount.
- 9. CREAB members should be decided by responders and not chiefs. Concept is good but it is critical to have the right members and if it is only top level people it will not achieve the goals.
- 10. Involve first responders with experience eliminate middle managers.
- 11. First responder groups must have a global understanding and leave egos, bias and jurisdictional issues out of creation and development of technology.
- 12.OFR input is essential.
- 13. Direct input from the field is important.
- 14. Communication program to all three services.
- 15. Insure that budgets are available for first responders to acquire newly developed equipment.

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PART 3: Conclusion

Group Recommended Actions:

- 1. Proceed, Implement, And Evolve.
- 2. Insure projects aren't "Big City" projects maybe unaffordable for smaller organizations.
- 3. Approach official organizations as opposed to individuals.
- 4. National Standard for PPE.
- 5. Use front line troops for testing and development of materials.

Summary of Findings:

Responders recognize solidly the need for the test and evaluation of technology and further, they have a strong interest in participating in meaningful field testing. This can be a safety concern and it is too late after procurement or as a result of equipment failure in operations. There is a strong prevailing sentiment that they have not been included to the extent necessary to date.

Feedback where standards are concerned was very mixed. While there is fundamental recognition that standards contribute to safety, and interoperability they come with a cost. Minimum standards encourage migration to a low common denominator. Standards can be limiting. If a standard is not created inclusive of the widest set of operational parameters they will not be practical for all to adopt. For example, it can be impossible for smaller responder organizations to comply with standards created for the large municipal environment. Standards work should avoid duplication of effort. Several respondents emphasized that standards must be living documents.

It was interesting to note that police respondents raised the question "who enforces standards?" a couple of times.

There was a general scepticism expressed. Those participating were leery of political agendas, bureaucracy, empire building, senior management interests and budgetary concerns overriding goals to achieve optimum safety, interoperability and adopting new technology. Grass-root responders feel that their interests are only in the background.

The value of simplicity and expedience in both this study and S&T issues that affect first responders was stated and restated. The view of grass root first responders participating in the study was action oriented, practical and pragmatic.