

# Communications Interoperability Action Plan for Canada

APRIL 2012



Government  
of Alberta ■



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Cat. No.: PS4-111/2012E-PDF

ISBN: 978-1-100-20677-6

## **Communications Interoperability Action Plan Tasks, Sub-Tasks and Deliverables 2012-2013**

1. The purpose of this Communications Interoperability Action Plan is to articulate the specific tasks assigned to each action item derived from the Communications Interoperability Strategy for Canada (CISC), including those items carried forward from the previous version of the 2011 Action Plan, the last Federal, Provincial, Territorial (F/P/T) Interoperability Sub-Working Group (IWG) meeting in Ottawa, Ontario December 2011 and the Canadian Communications Interoperability Plan Working Group's last meeting in Windsor in September 2010. The action plan integrates related interoperability initiatives within the public safety community used in the compendium of day-to-day to extreme operations, thereby enhancing the safety of emergency personnel and improved efficacy for the emergency management community. Each designated task is assigned a coordinator, deliverable(s) and a prospective timeline.

The F/P/T IWG is based on the membership of F/P/T interoperability coordinators. In addition, there are representatives/liaisons from federal departments, the Canadian Association of Chiefs of Police, the Canadian Association of Fire Chiefs, Emergency Medical Services Chiefs of Canada, the Canadian Interoperability Technology Interest Group and non-voting members from other government departments, municipalities, academia and industry. Additional representation at meetings may be invited by the co-chairs to achieve a balanced representation of expertise and perspectives, in order to fully represent issues being discussed.

Members of the working group will provide the F/P/T IWG with a link to other Federal/Provincial/Territorial and international interoperability groups, act as a resource body to F/P/T agencies in their achievement of voice/data communications interoperability and provide policy and operational perspective to Jurisdictional Specific Working Groups on communications interoperability.

The mandate of the F/P/T IWG is to set goals and identify key national priorities to enhance governance, planning, technology, training and exercises to promote national and bilateral interoperable voice and data communications.

2. Action items are directly linked to the Strategic Objectives laid out in the CISC:
  - Governance: The development of supportive and responsive governance architecture at the national and bi-lateral level;
  - Standard Operating Procedures: The development of harmonized standardized operational procedures, information exchange models and protocols;
  - Technology: Promote and support the ongoing and future development of a national emergency communications based on common user requirements, open standards and a system of systems approach. Develop a public safety controlled mobile broadband communications network expected to operate in the 700 megahertz (MHz) band;
  - Training and Exercises: The continued evolution of multi-faceted and cross-jurisdictional education, training, exercise and evaluation programs; and
  - Usage: The daily use of present and future communication and information system(s) including all further development and evolution.

3. The specific timelines established for each action item will be reviewed by the F/P/T IWG and approved by Senior Officials Responsible for Emergency Management (SOREM) during its cyclical review of the Action Plan. Any requirement for reprioritization will be addressed through SOREM and incorporated via the annual version of this evergreen process.
4. The organization or agency initially identified as the coordinator for each action item is the primary or lead for that issue. Through discussion and approval via the F/P/T IWG, additional organizations have been identified as those who are in direct support to, or directly linked with, the specific item.
5. This document guides the development of complimentary and supportive action plans for each of the identified action items. This concurrent planning activity will facilitate the coherency of multi-jurisdictional efforts in the move towards the desired interoperability end state.
6. These action items complete with tasks, deliverables and timelines will be prioritized annually by the F/P/T IWG and subsequently approved by SOREM.

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
<b>Canada Governance</b>						
1. Develop and share F/P/T Interoperability Roadmaps (3-5 years forecast on specific lines of operation/ development)	1. Develop/refine P/T interoperability plan framework	a. Conduct interoperability self-assessment. Self-assessment should be reviewed and confirmed on a regular period	NB	F/P/T documentation that supports and facilitates interoperability amongst emergency responders in daily and crisis operations while providing focal points for future evolution and development within the fora of interoperability	CCIP Goal 6	2012 <i>Carried over from 2011 Action Plan</i>
2. Maintain proactive communication of interoperability and the Communications Interoperability Action Plan	1. Develop strategic communication plan supportive of National Strategy	a. Develop strategic communications plan for: (1) Policy Makers and IM/IT practitioners (2) Decision makers (for voting WG representatives) (3) Public (4) Emergency Responders	PS/CITIG	A strategic communications plan that informs and educates senior F/P/T organizations, interested agencies and the public on issues of interoperability	CCIP Goal 2 F/P/T IWG Meeting 8 Dec 2011	2012 <i>Carried over from 2011 Action Plan</i>
		b. Maintain a web presence for interoperability best practices	PS CIOD	Collection of tools, white papers, architecture and artifacts and		Mar 2012 <i>Carried over from</i>

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
		and tools for data		standards information		2011 Action Plan
<b>Standard Operating Procedures (SOPs)</b>						
3. Shape common interoperability environment for voice and data communication		a. Develop a Change Management Process (CMP) for Canadian Emergency Management Communications Specifications	PS IDO	A CMP process document that can be used to manage communication specifications of national interest, including CAP-CP		Jun 2012
		b. Identify Information Exchange Requirement (IER) for emergency management community	PS CIOD	Propose a roadmap for the evolution of IER definition for the Canadian emergency management community	CCIP Goal 4 CCIP Annex E Action Plan 6  CSS Task Group – Canadianization and Operationalization of NIEM – set up of National Secretariat	Apr 2012
<b>Future Communication Systems</b>						
4. Develop and execute a 700 MHz spectrum national architecture implementation strategy and program for public safety use	1. Develop a governance structure		PS IDO (PMT)	Governance model established	CSS 700 MHz National Architecture Task Group	Apr 2012  <i>Carried over from 2011 Action Plan</i>
	2. Develop a TOR with Tri-Service 700 MHz WG, service delivery and funding model		PS IDO (PMT)	Business and funding model identified	CSS 700 MHz National Architecture Task Group	Aug 2012
	3. Establish a center to conduct tests, evaluations and research on communications technologies (e.g., CIRTEC)	a. Develop national voice/data testing methods for use by F/P/T, interoperability community, including municipalities, industry and	CSS	National communications testing modality that supports interoperability evaluation and validation	CSS 700 MHz National Architecture Task Group	Dec 2012

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
		Associations				
		b. Explore public-private partnership opportunities				Mar 2012
	4. Establish pilot programs		PS IDO (PMT)		CSS 700 MHz National Architecture Task Group	Mar 2012
5. Support national implementation of MASAS	1. Includes technical support WRT leading operationalization of national MASAS and provincial system(s) interface, basic tools and data aggregation (hub) architecture and transition of same to a self-sustainable business model		CSS/PS IDO		CSS MASAS Operationalization Task Group	2013 <i>Carried over from 2011 Action Plan</i>
	2. Develop a national geographic information system (i.e. symbology, baseline maps)		CSS/PS IDO	Functional and interoperable geographic information system	CSS MASAS Operationalization Task Group	Aug 2012 <i>Carried over from 2011 Action Plan</i>
	3. Develop high level architecture to describe the current and future states of national situational awareness within the emergency management and related communities in Canada		CSS/PS IDO		CSS MASAS Operationalization Task Group	Dec 2012
	4. Develop effective and scalable information exchange SOPs and best practices for local, regional, P/T emergency	a. Identify communications interoperability best practices at the P/T level	CSS	Compendium of information exchange SOPs and best practices for review and integration by stakeholders	CCIP Goal 4 – CCIP Annex E Action Plan 6 CCIP Annex F Action Plan 7 –	Aug 2012

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
	responder agencies					
	5. Support development and implementation an Operations Center Information Portal (OCIP) complete with integrated MASAS interface and accessible to all Canadian EM government agencies		GOC/CSS & PS CIOD	Operational OCIP MASAS module for OCIP		Jun 2012 Mar 2012
	6. Establish a High Resilience Environment (HRE) for supporting critical-to-EM tools such as MASAS and OCIP. Accommodated in a government-owned and controlled high-resilience secure data center		CSS technical coordination lead with initial partners from PS/GOC, HC, PWGSC, TBS, NSS, RCMP, DND, TC	HRE at Shared Services Canada (site 1); Environment Canada Met Center (site 2); Simon Fraser University Network Center for Emergency Management Operations (site 3)		Site 1: Jan 2012 Site 2: Apr 2012 Site 3: Nov 2011
	7. Transition implementation of national decision supporting capabilities each with interoperable interface to MASAS:  - Canadianized HAZUS  - Long Range Weather Forecast  Emergency Response Asset Location System		CSS technical lead coordinator with following partners from:  NRCan (HAZUS),  Environment Canada (Weather)  PS/GOC			
	8. Plume Modeling Tool Suite		EC & Radiation Protection			

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
			Bureau			
6. Support the adoption of data exchange standards	1. Educate stakeholders on the national and international data exchange standards	a. If required, establish a National Interoperable Data Standards Working Group	PS CIOD		PS	Ongoing <i>Carried over from 2011 Action Plan</i>
	2. Support emergency management departments and agencies in the adoption of these standards		PS CIOD		PS	Ongoing <i>Carried over from 2011 Action Plan</i>
7. Support implementation of the National Public Alerting System (NPAS)	1. Coordinate F/P/T efforts toward NPAS implementation	a. Support SOREM F/P/T Public Alerting Sub Working Group	PS/MB	Chairing/Secretariat support for bimonthly meetings		2012
		b. Develop alert Common Look and Feel (CLF) framework	SK	CLF policy and requirements for National Alert Aggregation and Dissemination System (NAADS)		2012
		c. Expansion of public alerting to wireless devices	IC/CSS	Development of technical specification for a wireless alerting gateway leading to a pilot for 2013  Construct and execute a pilot implementation in partnership with regional public alerting agency (TBD)  Publish a recommended specification for Canadian wireless public alerting infrastructure procurement/implementation	CSS Wireless Public Alerting Task Group Initiative	2012-2014
<b>Canada's Northern Strategy</b>						
8. Align Canada's Communications Interoperability Action Plan for Canada and Canada's Northern Strategy	1. Coordinate with the Arctic Security Working Group (ASWG) to ensure priorities are reflected in the Communications Interoperability Action Plan for	a. Define "Task Group" project to enhance northern region public safety interoperable deployable communications.  b. Stand-up and	PS & ASWG	ASWG priorities are reflected in Action Plan  Capability Roadmap for enhanced northern public safety communications		Sep 2012  Dec 2012



Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
	Canada	execute Task Group PMO in partnership with other Northern Region relevant federal and territorial funding agencies/programs		Deployable, 700 MHz Interoperable Northern Region Public Safety Communications Capability and Self-Sustainable Business model to support same.		Mar 2014
<b>Canada – United States Governance (PROPOSED)</b>						
9. Maintain bilateral governance protocols	1. Identification and engagement of cross-border interoperability champions		PS/DHS CANUS Federal CIO WG  (CA: TBS CIO Chair  US: DHS CIO with NIEM and ISE partners)	Named national champions for cross border interoperability	Windsor Report Pt 8  CANUS NIEM Governance agreement	2012  <i>Carried forward from 2011 Action Plan</i>
	2. Implement bilateral interoperability mandate between Public Safety Canada and the Department of Homeland Security		PS/DHS  CANUS CIO WGs and NIEM, ISE  CSS/DHS S&T	Bi-lateral mandates that facilitate cross border operations	Windsor Report Pt 3  NIEM Governance agreement	2012-ongoing  <i>Carried forward from 2011 Action Plan</i>
	3. Develop MOU/MOA to eliminate legal impediments to cross-border sharing of communications and information		PS/DHS    CSS/FEMA  PS/FEMA	A MOU/MOA that eliminates legal impediments that limits cross-border information sharing and communications  IPAWS-MASAS Agreement (Developmental use)  IPAWS-MASAS (Operational Use)	Windsor Report Pt 10  CSS-MASAS National Implementation Team	2012  <i>Carried forward from 2011 Action Plan</i>  Feb 2012
	4. Develop bilateral interoperability protocols at CANUS, state/provincial levels		PS	Compendium of interoperability procedures currently in between province/state and local/local use during all bilateral operations		Dec 2012

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
	5. Draft model MOU for routine cross-border use of the licensed spectrum		PS/CSS & DHS/PSCR &/or NPSTC	MOU that facilitates cross-border communications and information exchange	CSS 700 MHz National Architecture Implementation Task Group	2014
10. Establish CANUS Border Communication Procedures	1. Develop standardized bilateral communications SOPs for normal and disaster/emergency operations		CSS/PS IDO	Flexible, robust and effective operating procedures that increases the efficacy of bilateral safety and security operations	CSS 700 MHz National Architecture Implementation Task Group	Dec 2012
<b>Future Communication Systems</b>						
11. Enhance CANUS Science and Technology Interoperability Collaboration	1. Develop through the CANUS Enhanced Resilience Experimentation Program (aka CAUSE Resilience) a CANUS Border Region Interoperability Technology Demonstration Series (CBRITD Series)	MASAS Implementation at EMBC (BC eMap) NRCan EQ alert feed integration CANUS CAP alert exchange interface. A) Execute CAUSE Resilience 1; B) Video & Report CNPHI – MASAS Pilot Execute Regional Experiment	PS/CSS and DHS S&T	Mandate, concept of operations and terms of reference for A) "CBIRTD series" and for B) "Interoperable EM/EOC Series" CAUSE Resilience (West Coast) - report and videos CAUSE Resilience (Pandemic)	PS Data Input	Jun 2012 A) Jun 2011 B) Apr 2012 Dec 2012
			PS/CSS and DHSS&T	Guidance on project deliverables expected from the CBRITD Series program		
			PS/CSS and DHSS&T	Multi-year forecast of CBRITD Series locations, potential Series themes and sponsors		2012 - Ongoing
			PS/CSS and DHSS&T	CBRITD Series resource requirement and allocation program		May require bridging to mesh with Canada's business cycle
12. Enhance bilateral communications in the safety and	1. Develop a stakeholder information and asset exchange		PS/DHS	CANUS border-related stakeholder information and asset inventory	CSS 700 MHz National Architecture	Dec 2012

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
security forums	matrix				Implementation Task Group	
	2. Begin formal identification of cross-border interoperability channels available border-wide		PS IDO PS CIOD	Compendium of available border voice/data channels	CSS 700 MHz National Architecture Implementation Task Group	2012-Ongoing
	3. Resolve restrictions that prohibit sharing of frequencies, personnel and resources across state, provincial, and national boundaries		PS/DHS	Operational freedom amongst CANUS safety and security practitioners	CSS 700 MHz National Architecture Implementation Task Group	2012-Ongoing
<b>Training and Exercises (PROPOSED)</b>						
13. Integration or Synchronization of education, training, and exercise plans	1. Develop an integrated training and exercise calendar involving communications (voice) interoperability at the F/P/T/M level		PS/CSS	Calendar of educational opportunities, training activities, and exercise programs at the F/P/T/M level to allow stakeholders to maximize their preparedness and confirm required interoperability	CSS 700 MHz National Architecture Implementation Task Group	2013
	2. Develop an integrated training and exercise calendar involving communications (data) interoperability at the F/P/T/M level)		PS CIOD	Calendar of educational opportunities, training activities, and exercise programs at the F/P/T/M level to allow stakeholders to maximize their preparedness and confirm required interoperability	CSS 700 MHz National Architecture Implementation Task Group	
14. The establishment of common communications interoperability evaluation standards	1. Develop assessment and evaluation criteria for communication interoperability standards and SOPs		CSS/PS	TOR and evaluation/assessment parameters for this capability	CSS 700 MHz National Architecture Implementation Task Group	2013
	2. Develop assessment and evaluation plan templates for use at the			Assessment and Evaluation Methodology and Plan		

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
	F/P/T level					
	3. Implement assessment and evaluation program at F/P/T/M level			Baseline assessments at F/P/T level to validate SOPs, best practices, and provide observations and lessons learned emergency response community.		



## Annex 1 – Completed 2011 Action Items

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
<b>Canada Governance</b>						
1. Establish a formal multi-level interoperability governance structure	1. Appointment of F/P/T Interoperability Coordinator	a. Co-chairs TORs developed by PS in cooperation with SOREM	PS	PS Co-Chair is TBD-P/T rep appointed from SOREM	Dec 2010	COMPLETE  F/P/T Interoperability Working Group has been established
	2. Develop TORs for interoperability group members.	a. Coordinate TOR development with previous CCIP TORs	PS	Concurrence with way-ahead for Interoperability Group (CCIP WG TORs may suffice or be used as basis for further refinement)	Dec 2010	COMPLETE
		b. Write Interoperability Group TORs	PS	TORs	Jan 2011	COMPLETE
		c. Confirm TORs with CCIP representatives	PS	Confirmed TORs	Apr 2011	COMPLETE
		d. Publish WG TORs		Accepted TORs	Jun 2011	COMPLETE  TORs have been posted on SharePoint Site.
3. Create universal awareness of interoperability	2. Implement a Practitioners Web Portal	a. Develop list of Portal requirements	PS	Operational and sustainable web portal CIOD will lead on technical aspect definition.	Apr 2011	Initial deliverables COMPLETE.  Work is ONGOING in this area.  CIOD worked with EMNS to determine the user requirements for the Web portal. CIOD then developed and implemented the Web portal, which is available at the following address: <a href="https://eforums.ps-sp.gc.ca/collaboration/default.aspx">https://eforums.ps-sp.gc.ca/collaboration/default.aspx</a>  This site was built using SharePoint. EMNS/IDO now manages access to and content of the portal.  The initial user list for the portal was identified in collaboration with EMNS-

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
						<p>Interoperability group. The document is available in RDIMS (RDIMS 388048).</p> <p>The domain name, www.niem.ca, was purchased by one of our collaborators at RCMP. It is recommended that this domain name should be acquired by PS. Annual cost is approximately \$15. This domain is currently directed to www.niem.gov, since there is no publicly available site for NIEM in Canada.</p> <p>F/P/T IWG is also able to leverage CITIG portal (over 800 members) to enhance awareness of interoperability</p>
4. Create a Public Safety Interoperability Development Office (IDO)	1. Develop proposal and TORs for IDO	a. Develop Master Implementation Plan (MIP) for IDO	PS TBS	MIP should include: IDC vision and mandate IDO IOC/FOC definitions IDO organization diagram plus positional TORs IDO location and infrastructure resourcing IDO personnel resourcing IDO funding (multi-year) IDO timelines and decisive points (IOC/FOC)	April 2011	COMPLETE
		b. Develop partnership with TBS Interoperability Centre of Excellence (ICOE)		Determined TORs for aligning initiatives at federal level Federal funding	Apr 2011	COMPLETE  CIOD has developed a close partnership with TBS/CIOB/ICOE. Bi-weekly bi-lateral meetings are held, co-chaired by CIOD (Linda Hunter) and ICOE (Brian Carter).
<b>Standard Operating Procedures</b>						
5. Shape common interoperability environment for voice and data communication	1. Develop F/P/T standards for interoperable data communication	a. Identify information exchange requirements for law enforcement community	PS CIOD	NDQS-PS Information exchange requirements	Mar 2011	COMPLETE  Law Enforcement Information exchange requirements for data exchange standard  NEXT STEPS: Review and

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
						update, since based on work carried out in 2010-11.
		b. Adoption of open data standards for Law Enforcement Community		PS Recommendation report CACP-Informatics endorsed NIEM as national law enforcement information exchange standard December 2010 NDQS recommended re-marketing of title to Law Enforcement Interoperable Data Standards with National Interoperability Data Standards Working Group (NIDSWG) has been recommended by CIOD as way forward on data interoperability.		Initial deliverables COMPLETE.  Work is ONGOING in this area.  NIEM Recommendation report – English  NIEM Recommendation Report – French  The Law Enforcement community, led by the RCMP, continues to work towards the development and implementation of Law Enforcement data exchange standards (RCMP, EPS), based on NIEM
		c. Identify information exchange requirement (IER) for emergency management community		Provide a task matrix for the further evolution of the NIEM within the emergency management community – may require Emergency Management Interoperable Data sub-WG to ensure conformance	Mar 2011	Initial deliverables COMPLETE.  Work is ONGOING in this area.  Architecture framework prepared to establish guidelines for addressing this requirement. Document: Emergency Management System Interoperability Framework  The GOC Information Exchange Requirements were captured in the following document: Business and Operational Architecture - GOC Communications  Additional requirements relevant to the GOC and the EM community as a whole are also captured in the following documents:  MASAS for GOC - Business Architecture MASAS for GOC - Systems Architecture MASAS for GOC - Technical Design  NEXT STEPS: High-level complete. Will be defining additional tasks as specific requirements arise.

Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
		d. Adoption of open data standards for Emergency Management community	PS	CACP has adopted NIEM as standard for Canadian Policing community. PS, RCMP and Edmonton Police Service will conduct NIEM proof of concept by end of Mar 2011. Remainder of emergency management community studying potential impact	Dec 2010	Initial deliverables COMPLETE.  Work is ONGOING in this area.  NIEM Study Proof-of-Concept completed March 31, 2011; Final Report and supporting documentation
<b>Future Communications Systems</b>						
6. Support the National implementation of the Multi-Agency Situational Awareness System (MASAS)	2. Develop a MASAS tool kit development		PS/CSS	MASAS tool kit for F/P/T EOC usage	2011	COMPLETE
	3. Develop a CAP-CP governance model and roadmap for sustainability model		PS/CSS	CAP-CP governance and way forward for national implementation of this application	2011	Initial deliverables COMPLETE.  Work is ONGOING in this area.  Core MASAS components have been developed. Ongoing development efforts to make improvements will be ongoing.  The following document were prepared and delivered to PS by CAPAN through a study funded by DRDC-CSS and sponsored by PS CIOD:  CAP-CP Study Final Roadmap  CAP-CP Study Final Presentation
7. Develop 700 MHz employment strategy and action plan	1. Refine national radio spectrum utilization plan			Refined and updated national spectrum utilization plan		COMPLETE
	2. Develop impact analysis and recommendations for public safety employment of 700 MHz	a. Coordinate development of impact analysis with other F/P/T partners and stakeholders	PS		NLT 28 Feb 2011	COMPLETE  DRDC CSS study and PS response



Action Items	Task	Sub-Task	Coordinators	Deliverable	Tracked Source	Timeline
	spectrum					
		b. Confirm synchronicity and supportability of F/P/T impact analysis and business cases	PS	Coordinated impact analysis to IC	NLT 28 Feb 2011	COMPLETE
<b>Canada-United States Governance</b>						
2. Creation of cross-border communications working groups	2. Develop TORs for all members of the CANUS Interoperability Group		SOREM	Established positional TORs for all members of the CANUS Interoperability Group	Apr 2011	COMPLETE TORs have been developed
<b>Future Communications Systems</b>						
3. Enhance CANUS Science and Technology Interoperability Collaboration	1. Develop through the CANUS Enterprise Resilience Experimentation Program (aka CAUSE Resiliency) a CANUS Border Region Interoperability Technology Demonstration Series (CBRITD Series)		PS/CSS and DHS S&T	Mandate, concept of operations and terms of reference for CBRITD Series	2011	COMPLETE Based on mandate, BC CAUSE Resilience Experiment completed
			PS/CSS and DHS S&T	Guidance on project deliverables expected from the CBRITD Series program	Note: with resource requirement and allocation program following DRDC and PS business planning templates and timeline	COMPLETE Based on initial BC CAUSE Resilience Experiment lessons learned the expected project deliverables were updated

## Acronyms

<b>ASWG</b>	Arctic Security Working Group
<b>CANUS</b>	Canada-United States
<b>CAP-CP</b>	Canadian Profile of the Common Alerting Protocol
<b>CAUSE</b>	Canada-United States Expertise Resilience Experiment
<b>CBIRTD</b>	CANUS Border Region Interoperability Technology Demonstration
<b>CCIP</b>	Canadian Communications Interoperability Plan
<b>CIOD</b>	Chief Information Officer Directorate
<b>CIRTEC</b>	Communications Interoperability Research, Test & Evaluation Centre
<b>CITIG</b>	Canadian Interoperability Technical Interest Group
<b>CLF</b>	Common Look and Feel
<b>CMP</b>	Change Management Process
<b>CRC</b>	Communications Research Centre
<b>CSS</b>	Centre for Security Science
<b>DHS</b>	Department of Homeland Security
<b>DND</b>	Department of National Defense
<b>DRDC</b>	Defense Research and Development Canada
<b>EC</b>	Environment Canada
<b>EM</b>	Emergency Management

<b>EMBC</b>	Emergency Management British Columbia
<b>EMSI</b>	Emergency Management Systems and Interoperability
<b>EOC</b>	Emergency Operations Centre
<b>EQ</b>	Earthquake
<b>FEMA</b>	Federal Emergency Management Agency
<b>FOC</b>	Full Operational Capability
<b>F/P/T/M</b>	Federal/Provincial/Territorial/Municipal
<b>GIS</b>	Geographic Information System
<b>GOC</b>	Government Operations Centre
<b>HAZUS</b>	Hazards United States
<b>HC</b>	Health Canada
<b>HRE</b>	High Resilience Environment
<b>IC</b>	Industry Canada
<b>ICOE</b>	Interoperability Centre of Excellence
<b>ICS/IMS</b>	Incident Command System/Incident Management System
<b>IDO</b>	Interoperability Development Office
<b>IER</b>	Information Exchange Requirements
<b>IOC</b>	Initial Operational Capability
<b>IPAWS</b>	Integrated Public Alert and Warning System

<b>ISE</b>	Information Sharing Environment
<b>MASAS</b>	Multi-Agency Situational Awareness System
<b>MB</b>	Manitoba
<b>MIP</b>	Master Implementation Plan
<b>MOA</b>	Memorandum of Agreement
<b>MOU</b>	Memorandum of Understanding
<b>NAADS</b>	National Alert Aggregation and Dissemination System
<b>NB</b>	New Brunswick
<b>NDQS</b>	National Data Quality Standards
<b>NIEM</b>	National Information Exchange Model
<b>NPAS</b>	National Public Alerting System
<b>NPSTC</b>	National Public Safety Telecommunications Counsel
<b>NRCAN</b>	Natural Resources Canada
<b>NSS</b>	National Search and Rescue Secretariat
<b>OCIP</b>	Operations Center Interconnectivity Portal
<b>ON</b>	Ontario
<b>PM</b>	Project Management
<b>PMO</b>	Project Management Office
<b>PMT</b>	700 MHz Project Management Team

<b>PS</b>	Public Safety Canada
<b>PWGSC</b>	Public Works and Government Services Canada
<b>RCMP</b>	Royal Canadian Mounted Police
<b>S&amp;T</b>	Science and Technology
<b>SCONSAD</b>	Standing Committee on National Security and Defence
<b>SOREM</b>	Senior Officials Responsible for Emergency Management
<b>SOPs</b>	Standard Operating Procedures
<b>SOR(s)</b>	Statement of Requirement
<b>TBS</b>	Treasury Board Secretariat
<b>TBC</b>	To Be Confirmed
<b>TBD</b>	To Be Determined
<b>TBS</b>	Treasury Board Secretariat
<b>TC</b>	Transport Canada
<b>TOR(s)</b>	Terms of Reference
<b>WG</b>	Working Group
<b>WRT</b>	With respect to