Tearing down the technological 'Tower of Babel' along international borders

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The charred remains of a bridge overpass can be seen above the intense fire that occurred when a when a tractor trailer carrying two tankers of gasoline exploded into flames. Such an event at a border might require a bi-national response. Credit: LA County Fire Dept

On the morning of December 6, 1917, in the port of Halifax, Nova Scotia, near the U.S. border in Maine, a French ship, the Mont Blanc, filled with military explosives collided with another vessel. Twenty

minutes later, a fire set off the Mont Blanc's volatile cargo and caused a catastrophic explosion—killing thousands and destroying an entire section of the city. Rescue efforts were dispatched immediately from the Canadian mainland as well as the United States, but confusion and lack of immediate information delayed some of the rescue efforts for hours.

A recent joint experiment held in Maine and New Brunswick (NB), including officials from the Maine Emergency Management Agency (MEMA), the Province of New Brunswick Emergency Measures Organization, Department of Homeland Security's (DHS) Science and Technology Directorate (S&T), Federal Emergency Management Agency (FEMA), the Defence Research and Development Canada's Centre for Security Science of the Canadian Department of National Defence, and Public Safety Canada, proved that even across borders, any immediate confusion or lack of information following an incident like the Mont Blanc shouldn't greatly affect overall rescue efforts.

First responders and international officials on both sides of the U.S.-Canadian border had been preparing since last fall for the Canada-U.S. Enhance Resiliency Experiment (CAUSE)—demonstrating the ability to exchange information between local, state, provincial and national systems and software applications, including Virtual Maine, the Mutual Aid Support System and Mission Ready Package Tools (MASS MRP), Canada's Multi Agency Situational Awareness System (MASAS) and the United States' Integrated Public Alert and Warning System (IPAWS), as well as the U.S.'s Virtual USA (vUSA).* The vUSA library and "widget" developed by DHS S&T, and made available to all cooperating agencies and jurisdictions, allowed each agency or jurisdiction to make their unique data available to other participants. When incident specific information, alerts or warnings are needed across jurisdictional lines, or indeed across international borders, vUSA enables that information to be found and used in near real time.

During the experiment, two scenarios were used: a massive oil refinery fire in Saint John, NB, and the explosion of a compressed natural gas truck near the Calais, Maine, border crossing. In each case, first responders required an information exchange for response efforts from all neighboring jurisdictions on both sides of the border (bi-national first response) in near real time, including incident reports, evacuation routes, road closures, hospital status/locations, weather issues, availability of hazmat teams, incident response assets, fire and rescue units, triage locations, availability and location of needed resources and virtually anything else first responders might need. At the Command Posts, first responders in Saint John and Calais created incident reports, generated requests for mutual aid and issued alerts. Through the integration of Virtual Maine, Virtual USA, MASS MRP, MASAS and IPAWS, first responders were able to see, communicate and use the critical information being provided to them through the five systems.

"In every exercise of CAUSE," noted S&T's lead Dr. David Boyd, "It worked more effectively and rapidly than we had hoped. This is a tremendous milestone in tearing down the technological 'tower of Babel' along national borders."

"When we get calls from first responders in Calais and Washington County," noted MEMA's Deputy Director Bruce Fitzgerald, "our role is to provide support and help so that we can save lives and property. In this experiment, we requested international mutual aid, including ambulances and hospital resources from New Brunswick, and requested an available helicopter medivac unit from the New Hampshire National Guard to support the operation. Responders at the incident scene in Calais, at the State Emergency Operations Center (EOC) in Augusta and our partners in New Brunswick were all able to visualize these resource deployments using their respective situational awareness tools, Virtual Maine and MASAS. Sharing incident data in a common operation picture has been a long standing goal in both Maine and New Brunswick.

We are very pleased to have achieved that through the CAUSE experiment."

CAUSE is a direct result of the Joint U.S.-Canada Beyond the Border Initiative signed by President Obama and Canada's Prime Minister Harper in February 2011 to further enhance the economic and national security of both nations. The CAUSE demonstration represents an important milestone for the Beyond the Border Action Plan for Perimeter Security and Economic Competitiveness.

More information: *vUSA is interoperable system that allows emergency and first responders to share alerts, warnings, and incident information across U.S. federal, state, and tribal jurisdictions and to do it from their own platforms.

Provided by US Department of Homeland Security

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