



The

# **Broadcasters' Desktop Resource**

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... edited by Barry Mishkind – the Eclectic Engineer

## **Getting the Message Out**

### **NPAS and NAAD For EAS Users**



**By Ed Czarnecki**

*[April 2015] Just as American broadcasters are getting used to CAP and IPAWS enhancements to the EAS, Canada has rolled out its national alerting system, with stations now required to participate. Ed Czarnecki explains what the Canadians are doing and how it compares to the U.S. EAS.*

The majority of Canadian broadcasters have just joined the “EAS club,” so to speak.

#### **THE SYSTEM IS UP AND RUNNING**

It is called the National Public Alerting System (NPAS)./ As of this past March 31<sup>st</sup> most Canadian broadcasters are now required to broadcast information alerts during emergencies.

Harkening back to the June 30, 2012 CAP deadline imposed by the FCC, the Canadian regulator – the Canadian Radio-Television and Telecommunications Commission (CRTC) – decided that it now was time to finally require broadcast emergency alerts from that country’s CAP system.

Similarly, just as there was a lag between the deployment of IPAWS and the FCC order for

broadcasters to implement CAP, the Canadian decision came more than four years after the CRTC granted Pelmorex a license to operate the CAP alert system accessible to local officials and broadcasters during an emergency.

Sound familiar? Well, there are similarities – and major differences – between the US and Canadian approaches to “EAS.” As one of the primary providers of EAS gear in Canada – the DASDEC CAP-CP – we have come to learn and appreciate the different features between these two national alerting capabilities.

Let us first take a look at how the Canadian alert system evolved.

#### **A SLOW START**

Until now, Canada had never deployed a national alert and warning capability. The dialogue to create an alerting system really began in earnest after a tragic 1987 tornado event. But even that catalyst did not spur immediate action.

Throughout, Canadian authorities had been hoping that industry would come together to voluntarily develop a national alerting capability.

Finally,, twenty years later – in 2007 - Canadian regulators finally warned the Canadian broadcasting industry that if it did not come together to build and operate a national emergency alert system by March 2009, the CRTC would designate somebody to build it and “ensure the system is funded by the industry.” It took a few more years, but the CRTC finally made that mandatory determination in 2014.

## **EVOLUTION OF NAAD**

Unlike in the U.S., the Canadian version of IPAWS was initiated and developed by private industry.

Pelmorex – a Canadian company operating the Weather Network and other weather related content and technology – operates the Canadian “National Alert Aggregation & Dissemination” (NAAD) System. The CRTC gave approval to Pelmorex’s system in 2009, and again in 2011, hoping that broadcasters would voluntarily use the system.

In 2014, the Canadian regulator decided that they had waited long enough and removed the “voluntary” part from the conversation.

The CRTC issued notice that most stations, including cable and satellite companies, terrestrial radio and over-the-air television stations, and video-on-demand services, had until March 31, 2015 to enforce the new requirements. Campus, community-based, and Native broadcasters have an additional year – until March 31, 2016.

## **COMPARING NAAD AND IPAWS.**

Like IPAWS, the Pelmorex NAAD system provides a secure platform for the collection and distribution of emergency alerts from authorized government agencies.

But while the IPAWS initiative has been primarily government organized and operated in the U.S., a great deal of the initiative for developing the Canadian alert system has come from the private sector, particularly from Pelmorex,

which is operating the Canadian version of the “alert aggregator.”

In the U.S., IPAWS is an Internet-based system. The Pelmorex system supplies transport via Internet and Ku/C-band satellite. At least during the initial rollout, the majority of broadcasters appear to be relying on the Internet feed.

Those alerts can then be picked-up and distributed by so called Last Mile Distributors (LMDs – what we would call “EAS Participants” in the U.S.), as well as mobile operators, ISPs, or anyone else that wants to pick up and distribute the alerts. As in the U.S., thus far the majority of alerts are weather related, provided by Environment Canada.

## **SOME KEY DIFFERENCES**

Although both the FEMA’s IPAWS and the Canadian NAAD system are based on CAP, there are two key differences – the Canadian CAP profile (or format) is very different than that used by the U.S. IPAWS system, and there is no broadcast or daisy-chain EAS in Canada. Canada is CAP-only, no need for AM/FM/WX radio monitoring.

Another difference: the U.S. relies on FIPS codes, Canada utilizes their Standard Geographic Classification (SGC) codes. This permits much more carefully and accurately defined alert areas, although the use of the SGC codes has created some interoperability challenges for middleware that do not readily accept these Canadian SGC geocodes.

And during the message composition phase, while IPAWS relies on CAP tools that state and local authorities obtain themselves (so long as they are IPAWS conformant), the Canadian NAAD system provides its own alert authoring tools for use by provincial and local authorities.

This shared alert authoring capability has streamlined training and operation of alerting capabilities by local Canadian authorities.

## SAME, PLUS

Many Canadian alert event types map directly to U.S. SAME EAS codes.

However, with 154 event types, Canada has a significantly larger list of emergency events – about triple that of the U.S. – and these events can get very specific, including a meteorite warning, blood supply warning, iceberg, or heating oil supply warning.

## “BROADCAST NOW!”

Given the unique range of Canadian alerts, their CAP profile has another useful feature – Canadian CAP messages include a “broadcast immediate” parameter.

This is basically a flag within the message that indicates that the alert is intended for immediate broadcast transmission. This flag overrides several filters and automatically forwards the alert.

This “broadcast immediate” feature has removed a lot of the discussion about what types of alert event types (EAS codes) that a broadcaster can or should autoforward: most Canadian entities have opted to simply forward only the “broadcast immediate” messages.

## MULTILINGUAL PLATFORM

The Canadian alert system differs from the one in the U.S. in language support. The Canadian alert system was designed to be bilingual from the start. Alerts contain both English and French messages and broadcasters can choose to air either or both languages (depending on the station’s primary audiences).

Canada also has a set of fairly detailed “Common Look and Feel” (CLF) requirements for broadcasters.

For radio stations, this mainly involves a unique Canadian alert tone – and an eight second two-tone blast ([listen here](#)) – and the bilingual alert requirements. For television broadcasters, the

CLF requirements add a number of other display specifications, including the color of the scroll, font, the exact placement of the crawl on screen, and how fast the crawl should run.



## RECEIVER SPECS

Another major difference in the NPAS from the EAS is that there are no specific EAS equipment requirements in Canada – no EAS equipment certification, and no equipment inspections. The Canadian regulator has basically indicated the desired end-result and has let industry itself figure out how to get the job done.

Thankfully, a few EAS manufacturers, like Digital Alert Systems, stepped up to provide solutions to meet Canadian requirements.

In addition to EAS-type equipment, a handful of LMDs have also been looking at building their own home-brewed technical solutions to monitoring, authenticating, filtering and forwarding Canadian alerts.



Digital Alert Systems DASDEC™-II

The jury is still out on these self-built solutions. However, several Canadian operators quickly discovered that the total cost to build and maintain (!) their own CAP system was greater than the price of just buying a Canadian-compliant NAAD unit.

### **WHEN GOVERNMENT STEPS ASIDE**

Without a long series of extensive government requirements, companies like Digital Alert Systems are able to tailor software to the specific operating requirements of Canada and still provide an extremely cost-effective option to meet these CRTC requirements.

Many middleware solutions are not capable of supporting Canadian geolocation codes, emergency event types, or able to provide more than just the basic mandated features, but because of the versatility of the DASDEC, we were able to an interoperability solution between the embedded plant and new Canadian alerting requirements.

As one example, the DASDEC has a CAP-CP software module that adds comprehensive support for Canadian Common Look and Feel audio and video requirements to the basic CRTC compliance. The sister unit for cable and IPTV goes several steps farther and adds a number of solutions that help meet very complex challenges for Canadian cable operations, many of whom have existing plants that do not natively support Canadian alert information.

Furthermore, as the Canadian NPAS system gains experience, future software and firmware changes will be easily incorporated to the receivers.

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