ACT Government

Submission from the ACT Emergency Services Agency to the Public Safety Mobile Broadband Issue Paper

The Emergency Services Agency (ESA) welcomes the opportunity to present a submission to the Productivity Commission, Public Safety Mobile Broadband – Issues Paper.

The ESA is providing this report on behalf of the ACT Government. The ESA is the governing body for the ACT Ambulance Service, ACT Fire and Rescue, ACT Rural Fire Service and the ACT State Emergency Service. This submission includes information from other areas of the ACT Government that collaborate with the emergency services in conducting their work.

The ESA also provided a submission to the Spectrum review and is of the opinion that the both this review and the Spectrum Review should be considered not just in parallel but as partners to a joint outcome that meets the needs of Australia's public safety agencies.

This submission uses the term data throughout. In respect of this submission, data is everything that can be relayed electronically, be it a video stream, images, documentation, or simply data. We request that the reader not limit their definition of the term when reading this submission.

1b an approach that is fully reliant on commercial networks, and/or a combination of the two.

The ESA does not have a view as to whether the PSMB model should be carrier only, dedicated network or a combination of both. More important is that the bandwidth and technology is available at all times as the ESA will seek to make PSMB capabilities a normal process of incident management.

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2a be nationally interoperable, within and across agencies and jurisdictions

The ACT is surrounded by NSW. ESA maintain tight operational and communication linkages with our cross border counterparts to ensure that we share data where and when required. Through the Government Radio Network (GRN) the ESA is able to share voice communications and have developed policy and procedure to enable this function. The sharing of data typically occurs in an adhoc manner, occurring when required rather than as the norm. The sharing of incident data through disparate Computer Aided Dispatch (CAD) systems is available and the ACT will soon be taking advantage of that function. This sharing includes only incident information, not imagery, documents, etc.

ACT Policing rely on the AFP supplied radio network for sharing voice communications. This network is not connected to the ESA network and so little sharing takes place, rather we rely on telephony, email or face to face.

Interoperability is a key interest to all ACT emergency services. The ESA has sent taskforces to many parts of Australia to assist when requested. All services frequently cross the border to provide assistance. Enabling PSMB data sharing, not just between command centres but more locally at forward command points between disparate emergency services (and also perhaps disparate state or territory response staff) will allow significant gains in intelligence understanding. The ESA would recommend that the PSMB be harmonised in some fashion across Australia meaning each state or territory is purchasing equipment or a service that is immediately interoperable with all counterparts.

2b operate in both metropolitan and regional Australia

Many incidents attended by the ACT Emergency Services occur in the regional and rural areas of the ACT and across the border into NSW. The provision of PSMB in rural/remote areas is admittedly difficult but it is often these same areas that are subject to significant incidents and would benefit from access to PSMB capabilities. An incident in rural areas is still subject to proper incident management control. As stated earlier ESA will seek to make PSMB a part of everyday incident management, including in the rural and regional areas.

2c integrate voice communications that are traditionally carried on narrowband networks

A move away from dedicated narrowband networks would need to be weighed very carefully and would require a level of assurance from the PSMB technology and carrier service, private or otherwise, that it is robust, resilient and extremely reliable, particularly in traditional narrowband areas (rural, regional) where the either carriers do not operate or offer limited connections. Narrowband voice communications are the mainstay of incident management for emergency services offering interoperability, high reliability and minimal congestion. Significant capital and recurrent funding continues to be invested by the ACT Government in narrowband voice because of the mission critical nature of this capability.

2d maintain integrity and security of communications

Emergency services frequently conduct or are party to operations and incidents that are sensitive by nature. The integrity and security of the communications can be paramount and in some cases is an expectation of the other parties to an incident. From an ambulance perspective every incident is managed against the *Health Records (Privacy and Access) Act 1997*, requiring that all patient details and intervention is kept secure and that transmissions, whether voice or data, are also secure.

ACT Policing have a requirement for technical and surveillance technologies that must remain secure. PSMB technologies will be required to provide the same or better.

2e ensure accessibility, priority and sufficient capacity for PSAs, particularly during periods of peak demand and during a localised incident

The bandwidth and technology must be available at all times as the ACT will seek to make PSMB capabilities a normal process of incident management. The ACT does not currently rely on commercial carriers for mission critical communications as they cannot guarantee availability. Large scale public events have proven to the ESA that carrier communications are quickly overwhelmed with the result being a drop in service to a level that makes it entirely unsuitable for emergency management communications.

Peak demand on a commercial network is different to peak demand on a private network with each offering benefits and risks. It is worth considering a surge arrangement whereby additional bandwidth, access, etc becomes immediately available to service the requirements of the attending agencies.

2f be resilient and maintain continuity of service including under adverse operating circumstances

Similar to 2e the ESA will require access to PSMB as a part of everyday operations and incident management. The technology that provides PSMB must operate within the parameters of all emergency service mission critical systems, that is be available 24/7 with high levels of availability and redundancy. Mission critical systems within the ACT Emergency Services typically operate on 99.999% uptime. This very high availability level is indicative of the trust and requirement that is placed upon these systems.

2g consider the sustainability of arrangements in the context of rapidly changing technology and increased demand, including convergence of voice and data services

When the Commission considers the future potential demands of PSMB it must do so in parallel with the spectrum made available for this purpose, thereby supporting the earlier statement that the Spectrum Review and PSMB Issues Paper are implicitly tied in some respects. Technology innovation, public demand and service requirement will drive the use of PSMB. It is unknown what this may look like from an ESA perspective but if the current expansion and uptake of technology by all emergency services and the need for public messaging across Australia and internationally is any indication the Commission can expect that significant functions will be leveraged from the capability.

2h be cost-effective, in terms of both capital and operating cost

The value of emergency service access to a PSMB capability is difficult to quantify as to date the ESA has not embraced high bandwidth, high speed mobile data at an operational level. The ACT Government and emergency services, as public bodies, believe the socioeconomic value of PSMB must be considered.

To some degree the provision of PSMB is a national initiative (interoperability) and a federally funded outcome must be considered. In any event, access to PSMB must be appropriately costed within the ability of Governments to manage.

2j be compatible with a variety of end-user devices

PSMB must be end-user device agnostic. This is very important as to do otherwise may limit the market for applications and may also produce skewed purchasing scenarios.

3. Relevant domestic and international reports and experiences (e.g. work underway through the Asia Pacific Telecommunity Wireless Group (AWG), International Telecommunication Union (ITU), 3rd Generation Partnership Project (3GPP) and implementation of similar capability in other countries) that may be applicable to Australia.

The following study is a clear demonstration of the socioeconomic value of dedicated spectrum and PSMB.
http://www.lse.ac.uk/businessAndConsultancy/LSEEnterprise/pdf/tetraReport.pdf

The ESA is of the opinion that PSMB will be essential in maintaining current and future community standards on response and incident activity.

Supporting Comments

Public messaging is a key to ACT emergency service response, not just about what has been reported but what is occurring and might impact upon the resident or visitor. To achieve that goal we expect that data will be required to stream from incident sites back to our decision making, support and media areas to enable more timely and accurate public messaging.

The ESA is very progressive and agile mainly due to our small geographic footprint and tight service integration. This allows the ESA to identify, test and adopt new functionality more easily than the larger states and territories. PSMB will allow the ESA to investigate new opportunities for data capture and sharing. Some suggested future demands are:

- The continuing transfer of emergency responder vital statistics while in the field. An example might be a firefighter in a large structure fire and their vital statistics being streamed in real time to the forward command post.
- The continuing transfer of emergency responder location in three (3) dimensions. The location of emergency responders, by the nature of the work they conduct, is an issue as the incidents they encounter are frequently dangerous, confronting and always stressful.
- Drone technology with Hi-Res video streaming offers obvious advantages to outdoor incidents. It will provide enhanced decision making, greater

responder safety and allow those in remote command centres to observe the action on the ground.

- Realtime HiRes geospatial mapping pushed into the field to support incident management objectives and operations.

The list above barely scratches the surface on what PSMB will allow. With dedicated PSMB spectrum tied to the capability, industry will innovate to assist the emergency services to leverage the most from it.

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