FirstNet Third Notice

Docket #140821696–5400–03

Texas Public Safety Broadband Program Response

Submitted by

Texas Department of Public Safety

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Introduction

The Texas Public Safety Broadband Program (PSBP) is pleased to respond to FirstNet's Third Notice request, Docket #140821696–5400–03, regarding eligible users on the FirstNet spectrum, as a primary user. This response holistically addresses issues surrounding 'Considering Eligible Users and Entities', followed by additional considerations supporting a 'wide filter' with State and Territorial input.

In general, the Texas PSBP believes that any attempt to establish a single hard and fast definition of an 'eligible user' for all circumstances is problematic. Consider the differences in urban vs. rural locations. Many responders in small rural areas may be informal 'jacks of all trades' while responders in dense urban areas tend to be highly specialized in their skills. With one highly rural Texas county having a total of 4 first responders, flexibility is needed to ensure needed services are not excluded because of size or informalities.

Further complicating issues is the explosive growth in technology. An access and content manager of Internet-based information, commonly referred to as a "Webmaster", was virtually unheard of 15 years ago. Today they are an essential component in any large scale event or large enterprise. What skill sets will be needed in the next 15 years? It's unlikely we can accurately predict every new responder and their skills accurately. FirstNet needs to ensure flexibility is afforded to the definition of future 'eligible users' and capabilities, and to the current and future diverse organizational structures that greatly vary by states and other subdivisions. It will be unfortunate for future responders to be restricted to hard limitations as they help resolve a crisis.

Finally, repeated experience shows that attempting to add access to specialty responders at the onset of a disaster or crisis does not work. Clear identification, pre-qualification and vetting well before the incident is the least painful method of on-boarding authorized responders. The same will be true for FirstNet access.

Again, the Texas PSBP appreciates the chance to provide comments on this critical area.

Considering Eligible Users and Entities

FirstNet noted in the Third Notice:

> *In general, our preliminary interpretations in the First Notice permitted a wide variety of entities to qualify as public safety entities. Although our interpretations were met with strong support by the majority of respondents, some comments reflected a concern that we had expanded beyond the appropriate interpretation of the Act to include entities – such as utilities - that should not be given direct access to the network as public safety entities. **While we continue to preliminarily conclude that the Act grants FirstNet discretion to consider a broad range of users consistent with FirstNet's mission, given the complexity of the Act's public safety entity definition** and its importance to the functioning of the network and FirstNet's financial sustainability under the Act, we, in this Third Notice, propose a refined preliminary interpretation and seek additional comments regarding the definition.*

The Texas PSBP believes FirstNet has significant latitude in determining how various entities are granted access. Four primary areas of concern raised by FirstNet interest in the Third Notice include:

Scope of Eligible Users

Definition of Public Safety Services

Individual or Subgroup of an Organization as Public Safety Entity

Non Traditional First Responders

Each of these is addressed below.

Scope of Eligible Users

The Texas PSBP generally agrees with FirstNet's analysis of the expanse and scope of the statutory definition of "public safety entity" for purposes of identifying potential eligible (primary) users of the nationwide public safety network. Additionally, the Texas PSBP concurs that while FirstNet cannot expand the scope of allowable users beyond the statutory definition, there is flexibility to narrow the scope to a smaller set of entities than what might otherwise be allowed under the most expansive interpretation. As FirstNet recognizes in the Third Notice, the required consultation by FirstNet with State, Territorial, Tribal and local jurisdictions (henceforth called 'states') would be meaningless if such flexibility to narrow the scope of eligible users did not exist. The third Notice states "the stated consultation would be meaningless as FirstNet would simply be required to provide access to and use of the network to any entity that met the public safety entity definition regardless of the views of the consulted-with parties."

It is clear from the statute that Congress anticipated FirstNet would narrow or expand the scope of eligible users (within the maximum allowable scope set by the statutory definition) in accordance with input from states. Indeed, the Act requires FirstNet to take into account such input in carrying out its

duties, specifically with regard to "assignment of priority to local users," and "selection of entities seeking access to or use of the nationwide public safety interoperable broadband network", Section 6206(c)(2)(A)(iv) and (v).

Accordingly, the Texas PSBP strongly encourages FirstNet to give full deference to concerns and needs of states in defining eligible users. This is not only warranted by the required consultation provisions of the Act but also by policy considerations in order to achieve a successful nationwide build out. Failure by FirstNet to implement states' concerns in this regard could unnecessarily force States into a situation where they must consider an opt-out alternative in order to effectuate the needs of these jurisdictions.

It necessarily follows that the scope of eligible users may vary from State to State, or between various geographic regions or local areas within a given State. For example, in highly populous urban areas with large numbers of traditional first responders (as well as ubiquitous coverage from multiple commercial services), it may be advisable to impose more restrictive limits on eligibility in order to preserve limited spectrum capacity for use by emergency responders. In sparsely populated rural areas, on the other hand, with few traditional first responders, high cost of deployment and limited commercially-available service, a more expansive definition of eligibility may be warranted and beneficial from both a financial and operational standpoint. FirstNet should give strong deference to jurisdictional needs in this regard as identified through the required consultation process, in order to achieve a successful deployment, as "one size will not fit all".

Definition of Public Safety Services

The Texas PSBP agrees with FirstNet's "two-prong" approach to defining public safety services under the Act. As FirstNet correctly recognizes, the Homeland Security Act definition of emergency response providers (prong "B") includes some services that are not included in the section 337(f) definition (prong "A").

Section 337(f) of the Communications Act defines "public safety services" to mean services:

(A) the sole or principal purpose of which is to protect the safety of life, health or property;

(B) that are provided by (i) State or local government entities, or (ii) by nongovernmental organizations that are authorized by a governmental entity whose primary mission is the provision of such services; and

(C) that are not made commercially available to the public by the provider.

The Homeland Security Act definition (prong "B") brings in services provided by "Federal, State, and local governmental and nongovernmental emergency public safety, fire, law enforcement, emergency response, emergency medical (including hospital emergency facilities), and related personnel, agencies, and authorities", according to 6 U.S.C. 101 (6).

Accordingly, it is plain that Congress intended a more expansive definition than what is otherwise provided under section 337(f). Thus, FirstNet is correct in its conclusion that the two prongs form a combined list for purposes of identifying the maximum scope of eligible users of the public safety broadband network allowable under the Act.

Individual or Subgroup of an Organization as Public Safety Entity

FirstNet preliminarily concludes that in the context of an entity or organization that sometimes provides public safety services but whose primary overall mission is not the provision of public safety services, an individual member or a subgroup of the organization that actually provides public safety services could be considered a public safety entity for purposes of the definition of eligible users. As FirstNet correctly noted in the First Notice, eligible entities include any entity that provides some amount of public safety services, regardless of whether it is only a small portion of the entity's activities.

From the perspective of the network, it may prove difficult or costly to identify the subset of users or individuals within a subscribing entity that meet the qualifications for use of the network. This is not to say that it could not be done, but it would have to be accomplished through the input of a sponsoring agency (either the entity or another party) familiar with the day-to-day operations of personnel within the entity itself, in accordance with a predetermined set of ranking criteria. Ultimately, the same result could be accomplished—but without circumscribing access to the FirstNet network on an intra-agency basis—through assigning priorities to users, since the same sort of ranking criteria would be used for assigning priorities as would be used for identifying a subset of eligible users within an otherwise eligible entity. Moreover, once an eligible user has been identified and pre-qualified, and is allowed on the network, priorities could be assigned on a geographic and/or temporal basis allowing for shifting levels of access to the network based on user location and needs at a given time. Perhaps this issue would be best addressed during consultation to ensure meeting individual State and local needs.

Non-Traditional First Responders

The Texas PSBP generally concurs with FirstNet's conclusions regarding non-traditional first responders. The State supports an expansive interpretation of eligible users on the network, subject in implementation to specific State and local jurisdictional needs to be discussed during consultation. With a goal of getting assured communications to the right responders, the Texas PSBP encourages FirstNet to avoid instituting unnecessary across-the-board eligibility restrictions and instead allow State and local jurisdictions to have an active role in defining eligibility and priority. In the following discussion, the Texas PSBP lists specific 'non-traditional' responders that have often made a material difference, and should be considered, identified, prequalified and enrolled on FirstNet for their specific roles in supporting resolution of incidents and disasters. Not including these essential responders should not be an option.

Discussion

The Texas PSBP firmly believes that any responder that can materially support the positive resolution of an incident should have access to the NPSBN during that incident. Specifically this includes any fire, health, law enforcement, medical, public works, utility, and related personnel, plus agencies, authorities, organizations or other technical specialists specifically activated to provide response to an incident.

When a major disaster or incident occurs, two key questions must be considered: Who can materially help best to resolve the incident, and what communications do they need to coordinate their recovery effort? Regardless of classifying responders with 'traditional' or 'non-traditional' labels, the types of responders who can, and historically have materially helped resolve major incidents goes well beyond Fire, Police and EMS, and include:

Transportation / Logistics

Voluntary Organizations Active in Disaster (VOAD) / Community Recovery Organizations

Public Works

Engineering

Mass Care, Emergency Assistance, Housing and Human Services

Logistics Management and Resource Support

Public Health and Medical Services

Hazmat

Energy

Communications augmentation units

Public Communications

Utilities (electrical, gas, water, waste, wireline and wireless communications, etc)

Transit organizations (bus, light rail, heavy rail)

Specialized search and rescue teams

Heavy equipment operators giving traditional responders access to affected areas

Hospitals, and their service providers (public, private, teaching, labs, etc.)

School officials (administration, principals, security, etc.)

First-on-the-scene preliminary damage assessors (structural, biological, chemical, nuclear, etc.)

Victim and responder relief organizations (shelter, medical, food, counseling, support)

National Guard

Coast Guard

FEMA and other Federal agencies with specialized capabilities.

While some have expressed concern that a large number of responders "might" overload (a single sector of a single antenna site within) the network, these congestion concerns can be handled by existing 3GPP mechanisms, described below. These mechanisms provide safeguards and rapid on/off-boarding of relevant users, ensuring support of the right responders, at the right place, at the right time. FirstNet can further ensure the right mix of responders are available by developing a strategy that encourages pre-identification, qualification and registration of traditional responders, their organizations, as well as other non-traditional responders, with initial priority(s) that will alleviate issues and concerns when a major incident occurs.

Allowing a State or Territory, who best understands the relationships between these and other responding agencies in their state, will have the very best view of who should and should not be considered 'an eligible user'. Giving states, within FirstNet guidelines, the authority to pre-qualify and grant FirstNet access to eligible users and entities will help ensure the right responders are available when and where needed. As a related issue, the difference in state governance and procurement models alone should encourage FirstNet to strongly consider a federated approach to identifying and qualifying eligible users and eligible entities. Differences in chains of command, procedures, funding and oversight would likely require a massive full-time Federal staff to deal with individual determinations within each state.

Conversely, having a fixed model that only includes traditional, Fire, EMS and Law Enforcement, as suggested by some organizations, will clearly leave out a significant number of legitimate responders that play a significant role and will make a significant difference in most disasters and response activities.

As told by Rudy Giuliani at a 2003 Homeland Defense Conference, shortly after the attack on the World Trade Center, his office received a critical call from Verizon's senior management: All phones, including tie-lines to dispatch centers and operational radio sites for the city's Public Safety radio system were about to go down: The generator powering the only operational telephone switch in lower Manhattan was about to run out of diesel fuel. Other switches in the area were in similar shape. Verizon's tanker trucks had repeatedly been turned away from entering the disaster zone for several days, as no city agency was going to literally allow adding 'fuel to a fire'. Previous messages up the chain from Verizon to the City had gone unheeded. Police, Fire and EMS response in lower Manhattan was about to come to a standstill. The solution was gross overkill and a drain on resources, but it worked: Put an armed officer with a police radio on every Verizon refueling truck to clear security and access issues.

Clearly, for several days after 9/11 some of the most critical responders to the recovery effort were union tanker truck drivers who ensured their cargo was delivered on-time, keeping all of the generators

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and LMR radio systems operational. In the next hurricane or major disaster, it is clear that drivers with critical cargo such as water, fuel, food, or even the injured are critical responders and should have access to an assured communications system that avoids having to call the Mayor (or Governor's) office to provide their critical service. What other non-traditional responders will be critical in the next incident? Allowing 'local control' at a state level regarding who qualifies as a responder is likely the most efficient way to ensure future generators, communications and other critical systems remain operational in trying times.

By taking a generous view of who is an eligible user as applied to FirstNet access, and allowing states to identify the broad based responders relevant to their disasters and incidents, FirstNet will be in the best position to rapidly activate the responders that can do the most good. With QCI, ARP or other operational procedures, FirstNet is in a position to allow any of these responders to support an incident, or to restrict any responder from that incident.

When a major disaster or large scale emergency occurs, whether naturally occurring or man-made, whether predicted or unpredicted, coordinated communications between **all responders** is needed to speed the response and to minimize loss of life and property.

Traditional public safety responders look for support from other providers during these times of disaster or large scale emergency. These providers have skills, knowledge and equipment that is not generally required by, or available from, the traditional public safety responders. As noted above, these essential providers/operators include utilities, transit organizations, specialized search and rescue teams, debris removal, hospitals, victim and responder relief organizations, and many others. All of these public safety responders and emergency response providers need to be coordinated. A single, reliable wireless communications network for all responders and providers will simplify the coordination challenge.

For predictable disasters such as a hurricane or seasonal flooding, traditional first responders and other response providers could enhance the outcome by using the NPSBN before the disaster. For example, coordinated communications carried out before the impending disaster would likely reinforce operations and procedures once the recovery starts, resulting in a better outcome, be it a rural or urban area.

The LTE technology being implemented for the FirstNet NPSBN already has standardized schemes to manage responders from outside the traditional public safety cadre. All the responders would be using the NPSBN for coordination during the preparation (if predictable), rescue and recovery phases of the disaster/emergency. Further, LTE has the explicit capability to control user equipment access to the network and decide which user equipment is provided priority service.

To provide this capability, 3GPP developed the Quality of Service Class Identifier (QCI) and the Allocation and Retention Priority (ARP). The QCI defines the characteristics of the connection, guaranteed bit rate or non-guaranteed bit rate, priority, the tolerable delay (latency), and tolerable packet loss for a service request. Each QCI is mapped to an example service. This allows the network to assign the network resource that matches the needs of the service request. For example, conversational voice requires high

priority, low delay through the network but can function adequately with relatively high packet error rate.

ARP is used to decide when a <u>new request</u> should be accepted given currently allocated resources and ARP level of those using those resources. A new Public Safety responder request with a higher ARP would be given priority to resources over users with a lower ARP, possibly kicking the lower ARP users off the resource they are currently using.

3GPP recently published a document that updated the Quality of Service Call Identifiers (see[1], Table 6.1.7: Standardized QCI characteristics) to include new QCIs for mission critical push to talk voice, mission critical signaling, mission critical data and non-mission critical push to talk voice. These new QCIs should be part of 3GPP Release 13 when it is released. With these new QCI's, traditional Public Safety Responders will have QCIs that provide the highest priority and lowest latency for mission critical services.

There are significant benefits to have all responders on the same communications network if that network can support the load those responders will put on the network and also continue to allow priority for the traditional first responders. With the forthcoming new QCI values in 3GPP Release 13 and the existing ARP capabilities, the priority needs for the traditional first responders will be met with the emergency response providers who concurrently utilize the NSPBN.

Today, 3GPP can support a very large number of primary responders on FirstNet AND allow each responder, individually, by groups, by class of user, or by other criteria, to be prioritized such that key responders get the bandwidth they need, and other responders gain access but at a lower priority.

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[1] (1) TS 23.203 Technical Specification Group Services and System Aspects; Policy and charging control architecture (Release 13), V13.3.0. (March 2015) http://www.3gpp.org/ftp/specs/archive/23_series/23.203/23203-d30.zip

Summary Comments

The Texas PSBP appreciates the chance to provide comments regarding 'eligible users', with the following summary:

> FirstNet statutorily has significant latitude in determining which responders may access the NPSBN during an incident or routine operations, including traditional and non-traditional skills.

> It is in the Nation's interest for FirstNet to be as inclusive as possible when responding to a major incident. Giving every responder <u>that can help resolve an incident</u> access to assured, reliable NPSBN communications is clearly in the local and national interest.

> Like 9/11, future disasters and incidents are likely to involve unconventional challenges and threats, requiring non-traditional responders with capabilities we currently do not enjoy.

> It is impossible for FirstNet to 'decode' the evolving organizational structure within every State, Tribe or Territory, then keep an up-to-date identification of every relevant responder necessary for all future incident responses. The States, Tribes and Territories can help.

To these issues, the Texas PSBP submits that most States and Territories have the ability to:

> Follow a federated structure that identifies, pre-qualifies and credentials responders;

> Develops an ongoing program to identify 'who is a responder' within their borders;

> Provides ongoing management of those responders based upon FirstNet standards and local
needs, including Identity Management, Credentialing, Access Control and Security attributes.

Again, the Texas PSBP would like to express appreciation to FirstNet and NTIA for making this opportunity available to communicate our position on this Third Notice. The State looks forward to working with FirstNet and partners in order to move to the Nationwide Public Safety Broadband Network purposefully forward.

We greatly appreciate your time and consideration!