

# FirstNet Request for Information for Comprehensive Network Solution(s)

## Response of APCO International

October 27, 2014

The Association of Public-Safety Communications Officials-International, Inc. (APCO) submits the following response to the Request for Information (RFI) for Comprehensive Network Solution(s) issued by the First Responder Network Authority (FirstNet). Founded in 1935, APCO is the nation's oldest and largest organization of public safety communications professionals. APCO's membership primarily consists of state and local government employees who manage and operate public safety communications systems – including Public Safety Answering Points (PSAPs), dispatch centers, emergency operations centers, radio networks, and information technology – for law enforcement, fire, emergency medical, and other public safety agencies.<sup>1</sup>

### I. Statement of Interest

APCO spearheaded the intensive public safety-driven advocacy campaign to achieve the legislation that created FirstNet. APCO therefore responds to this RFI with a unique perspective of the goals that the public safety community sought to accomplish with enactment of FirstNet's enabling legislation.<sup>2</sup>

As part of its advocacy efforts, APCO established the Public Safety Alliance (PSA), an unprecedented grouping of the major national public safety organizations that joined forces to advocate for the funding, spectrum, and governance body necessary to implement a nationwide, interoperable broadband network for the benefit of public safety agencies across the country.<sup>3</sup>

At the time, APCO recognized the value that reallocation of the former 700 MHz "D Block" would bring to public safety. APCO organized the PSA partners around a core concept: public safety communications professionals and first responders should have the most modern communications tools at their disposal in order to protect and serve the public. Achieving reallocation of the D Block for public safety use was a fundamental element of this strategy.

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<sup>1</sup> This response contains no proprietary information or any other disclosure limitations. APCO will make its entire response public.

<sup>2</sup> Middle Class Tax Relief and Job Creation Act of 2012 (the "Act").

<sup>3</sup> In addition to APCO, the PSA consisted of the International Association of Chiefs of Police, International Association of Fire Chiefs, Major Cities Chiefs Association, Major County Sheriffs' Association, Metropolitan Fire Chiefs Association, National Association of State EMS Officials, National Emergency Management Association, and the National Sheriffs' Association.

Through APCO, the individual associations comprising the PSA enlisted the help of their members who engaged in a grass roots effort to urge members of Congress to support legislation that would create an interoperable, nationwide public safety broadband network (NPSBN). In parallel with these efforts, key stakeholders from the nine public safety organizations held rallies on Capitol Hill and organized fly-ins to meet with members of Congress and their staff. APCO and the PSA also hosted events in Washington, D.C., that attracted industry leaders as well as state, local, and federal government officials, and featured presentations from leaders in the public safety community who spoke about the importance of broadband for public safety.

In the end, APCO and the PSA achieved their main objectives with passage of the Act. With this background, APCO provides the following guidance in response to the RFI.

## II. Response to RFI

APCO's responses are organized along the specific sections of the RFI and the associated draft statement of objectives. Our reply also addresses the integration of FirstNet with PSAPs that, while not covered in the RFI, is an important consideration. Initially, however, APCO believes the following concepts are paramount:

**First**, the resulting Request for Proposals (RFPs) must be crafted to maximize interest on the part of the private sector to partner with FirstNet. Forging sufficient public-private partnerships, with the widest variety of potential partners, but especially with companies having expertise in advanced wireless communications, is fundamental to FirstNet's overall success.

**Second**, FirstNet must keep its "eye on the ball." FirstNet's charge is of such complexity and importance that it requires an initial, sharp focus on creating a solid network foundation – the "single, national network architecture" called for in the Act – upon which all subsequent network components will build. FirstNet must prioritize this network foundation, maximize use of existing and the most readily accessible network infrastructure, adhere to "commercial standards," be flexible enough to accommodate diverse public safety requirements as well as future enhancements and expansion, and support a nationwide level of interoperable communications.

### a. Acquisition Approach

APCO and the PSA broke with decades of practice by advocating that Congress create a single nationwide governance body vested with the authority and tools needed to implement the new network. We recognized that a single governance body can achieve economies of scale and scope, and a level of bargaining power that no single public safety agency or state

could ever realize. Indeed, one immediate impact of the Act was to effectively transform the thousands of public safety agencies across the country into one single “public safety enterprise customer” for purposes of FirstNet’s responsibilities to develop public-private partnerships. In this regard, the Act contains multiple references emphasizing the benefits of partnering with the commercial wireless industry.<sup>4</sup>

Congress provided FirstNet with two very important tools to leverage these opportunities to act on behalf of the public safety community: funding and spectrum. Funding was necessary to support the costs of improving upon commercial-grade networks to meet public safety-specific requirements (such as network resiliency, rural coverage, and integration with PSAPs), and sufficient spectrum was critical to support operations on the worst of days but otherwise entice private sector interest in partnering with FirstNet, with the prospect of gaining access to this spectrum on a secondary basis to public safety users.

These provisions of the Act give FirstNet distinct advantages over the historic individual procurement approaches of the various state and local public safety agencies across the country. Relative to state and local methods, FirstNet will be able to implement a sustainable network design, ensure coordinated maintenance and upgrades, act swiftly and independently, cut across state and local procurement and approval processes, overcome jurisdictional boundary issues, produce a competitive and diverse vendor ecosystem, and establish and maintain nationwide interoperability.

Thus, in its acquisition approach, FirstNet should use the funds and spectrum at its disposal to promote as many opportunities as possible with private sector partners who can contribute the technology, infrastructure, and expertise needed to establish an advanced public safety broadband network. FirstNet should also create the conditions necessary to permit multiple parties to join in responding to future RFPs.

An acquisition strategy that results in strong private sector interest would, in turn, also create the strong incentives APCO expects will lead all states to join with FirstNet. While APCO made clear in its advocacy the importance of state and local input into network design, APCO did not seek what ultimately became the “opt-out” provision of the Act. A single state opting out poses a threat to FirstNet’s success, even if the state is able to meet the Act’s requirements for this process. Regardless of a state’s intentions, APCO is concerned that a number of unintended outcomes could seriously jeopardize the primary objective of a nationwide level of interoperability. For example, what if a future change in a state’s leadership, fiscal condition,

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<sup>4</sup> For example, the Act requires network components to be based on “commercial standards,” RFPs to leverage existing commercial wireless infrastructure and account for advantages of partnerships with existing commercial providers, and equipment be built to non-proprietary, commercially available standards and be backwards-compatible with existing commercial networks.

network team, or other priorities causes the state network to falter? There is no “back-up” in the Act to account for such an outcome, and once it happens, not only will the citizens and first responders in that state face a diminished or inoperable network, but the country loses its nationwide interoperability.

APCO believes that it is to everyone’s advantage – including states that may in good faith be considering a path for the opt-out option – for FirstNet to get the basic network infrastructure on the right footing, issue RFPs that maximize private sector interest, and leverage its inherent national-level economies of scale and bargaining power for the benefit of public safety agencies and first responders across the country. If done right, as APCO expects, given the quality of the FirstNet board members and staff, states will participate in the network deployment as proposed by FirstNet, reserving any state funds that would have been spent pursuing individual RAN builds for purchasing devices or even augmenting the FirstNet network to a state’s own liking (subject to any necessary technical requirements or standards FirstNet would adopt).

b. Build, Deploy, Operate, and Maintain the NPSBN

FirstNet asks appropriate questions about how it can achieve nationwide coverage. Similar issues arise when determining where in the country funds should be directed to additional network and site resiliency. APCO defers to FirstNet on the choices that will be necessary along the way, but notes that without a properly designed and implemented baseline network, factors such as coverage and resiliency become irrelevant. Over time, and as FirstNet and all stakeholders learn how public-private partnerships can work to make the most of the available public funding and spectrum, FirstNet can continually strive to enhance the network’s coverage and resiliency.

c. Financial Sustainability

While the \$7 billion in funding is unprecedented in terms of public safety communications, APCO advocated for more funding than what was ultimately made available. This makes establishing the right network foundation critical. Furthermore, at least initially, FirstNet should pursue partnerships with companies that have experience in deploying wireless communications networks, the most readily accessible infrastructure to share, and interest in leveraging the FirstNet spectrum on a secondary basis. This path would achieve the basic foundation for the nationwide network, a level of network coverage approaching the reach of existing commercial deployments, and additional coverage and network hardening as resources permit.

It is important to recognize that FirstNet also has the authority to enter into roaming arrangements with existing wireless service providers, with the potential to gain prioritization in times of emergency. Striking such agreements could help quickly drive availability of handsets with commercial and band class 14 chipsets, and provide first responders with communications capability over commercial spectrum at nationally-bargained rates until FirstNet's spectrum is built out. Many first responders already make use of commercial wireless services. Until FirstNet is available, with its dedicated spectrum and unique features that meet public safety requirements, nationally-bargained roaming services can provide an initial option for advanced communications. Further, band class 14 handsets developed with multiple commercial bands can provide network redundancy options after FirstNet is deployed.

An initial measured approach as outlined above to network implementation would also have the benefit of accommodating innovations in wireless technology (even "5G"), evolving public safety priorities, and time for all necessary technical, contracting, and legal processes required at the state and local level for publicly-owned infrastructure to be shared with FirstNet.

#### d. Accelerate Speed to Market

As mentioned above, by taking advantage of its authority to enter into roaming agreements with wireless service providers, FirstNet can enhance opportunities to partner with these companies, create an immediate network option for first responders, foster availability of handsets with both commercial and band class 14 spectrum bands, begin to build public safety subscribership, benefit by learning from actual network usage patterns, and evaluate device and mobile app use cases. Further, by encouraging joint RFP responses, network planning and deployment can occur more quickly and cover a variety of urban and rural areas.

#### e. System Hardening

Network resiliency is a hallmark of public safety communications networks. Again, a well-designed network base infrastructure is essential. Funds then need to be targeted wisely to the most pressing network resiliency needs. FirstNet should also initially seek partners that can readily share existing hardened facilities. Network hardening can thereafter be an ongoing process as experience is gained and more solutions become available. For example, handsets with multiple commercial bands can help with redundancy if FirstNet network facilities become unavailable. Future off-network ("talk around") capabilities can help as well when cell sites are damaged or inoperable.

The security of the NPSBN will be critical to the network's long term success. Among its many responsibilities, FirstNet is required to monitor and protect the network against

cyberattack. Importantly, FirstNet has a unique opportunity to address these key cyber challenges at the outset of the network's design and implementation, rather than having to incorporate post hoc measures into an existing, mature network. Thus, FirstNet is in the enviable position of being able to tailor a cyber framework to match the unique requirements of the network.

f. Priority and Preemption

APCO believes that public-private partnerships are essential to network implementation, and the Act specifies that the tradeoff for the private sector engaging in such partnerships is to accept access to the FirstNet spectrum on a secondary basis. Further, the Act makes clear that the primary purpose for this network is to serve the communications needs of first responders. At the same time, there was an implicit understanding that LTE and other advanced, commercially available, and standard-based technologies would permit various quality of service and spectrum access levels to ensure that public safety always retains sufficient spectrum to perform their jobs. APCO thus encourages FirstNet to solicit technology partners that enable these objectives.

g. Opt-Out RAN Integration

As mentioned earlier, one of the dangers of a state that opts out to construct and manage its own RAN is to lose interoperability with the FirstNet network in the event, for any reason, that the state network is unable to meet public safety's needs. Even for successful state opt-out situations, any state RAN modifications, maintenance, upgrades, repairs, etc. must be coordinated with FirstNet to maintain interoperability. This is why FirstNet must make clear that states that seek to opt out (and meet all the related statutory requirements) are fully responsible for ensuring and maintaining full connectivity and interoperability with the FirstNet network. These must also be the financial, technical, and operational responsibilities of the opt-out state, not FirstNet.

h. Lifecycle Innovation

FirstNet can use the RFP process to seek proposals that would cover a number of services – network construction, maintenance, operation, upgrades, etc. – from single or joint responses. In other words, FirstNet can request proposals for “turnkey” partners.

### **III. Integration with Public Safety Answering Points**

Section 6206(b)(2)(C) of the Act states that FirstNet “shall promote integration of the network with public safety answering points or their equivalent.” As there appears to be no mention in the RFI of this provision, APCO wishes to ensure that FirstNet intends to make PSAP integration with its network a prominent part of its planning and acquisition strategy.

Much like FirstNet, IP-based Next Generation 9-1-1 (NG9-1-1) networks are on the horizon. NG9-1-1 will be a network of networks providing connectivity among PSAPs locally, regionally, and nationally. NG9-1-1 systems will make it possible for PSAPs and authorized agencies to interoperate with one another over “ESINets” or Emergency Services IP Networks. NG9-1-1 will also enable the public to interact with the 9-1-1 system using multi-media technology (voice, data, video).

In APCO’s view, NG9-1-1 and FirstNet will essentially represent the two sides of emergency response, with the PSAP serving as a “nerve center” connecting them. On one side, the public sends voice or data via NG9-1-1 to request emergency services; on the other side, first responders receive information from the PSAP and exchange mission-critical communications via FirstNet. Together, FirstNet and next generation PSAPs will enable multi-media data sharing from the PSAP to responders (whether generated from the general public, or retrieved from other public safety systems or databases), among responders, and from responders back to the PSAP. A successful integration of NG9-1-1 and FirstNet requires a standards-based open architecture, and APCO is actively working with FirstNet and other stakeholders to develop such standards and best practices. Accordingly, FirstNet’s RFPs should incorporate a forward-thinking vision of PSAPs and a fully integrated emergency response system.

#### **IV. Conclusion**

APCO commends FirstNet on its progress to date and remains committed to supporting continued efforts to build a nationwide public safety broadband network. As FirstNet develops its RFP strategy, APCO encourages FirstNet to leverage a variety of partnership opportunities and focus on the creation of a strong network foundation.

Respectfully submitted,

By:                    /s/  
John Wright  
President  
APCO International

Jeffrey S. Cohen  
Chief Counsel, Law & Policy  
1426 Prince Street  
Alexandria, VA 22314  
(571) 312-4400 ext. 7005  
[cohenj@apcointl.org](mailto:cohenj@apcointl.org)

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