

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Facilitating the Deployment of Text-to-911 and) PS Docket No. 11-153
Other Next Generation 911 Applications)
)
Framework for Next Generation 911 Deployment) PS Docket No. 10-255

**COMMENTS OF APCO
IN RESPONSE TO
THIRD FURTHER NOTICE OF PROPOSED RULEMAKING**

The Association of Public-Safety Communications Officials-International, Inc. (“APCO”) hereby submits the following comments in response to the Commission’s *Third Further Notice of Proposed Rulemaking*, FCC 14-118 (released August 13, 2014) (“*Third FNPRM*”), in the above-captioned proceedings.¹

Founded in 1935, APCO is the nation’s oldest and largest public safety communications organization. Most APCO members are state or local government employees who manage and operate communications systems -- including Public Safety Answering Points (PSAPs), dispatch centers, radio networks, and information technology -- for law enforcement, fire, emergency medical, forestry conservation, highway maintenance, disaster relief, and other public safety agencies. APCO has long been involved in Commission proceedings regarding 9-1-1 capability and other aspects of public safety communications, and has submitted comments in response to each of the prior notices of proposed rulemaking in the above-captioned proceedings.

¹ The *Third FNPRM* was adopted in conjunction with a *Second Report and Order*.

APCO applauds the Commission for its adoption of the *Second Report and Order*, which requires interconnected text service providers to deliver 9-1-1 texts to PSAPs. In the *Third FNPRM*, the Commission addresses still open questions regarding the extent to which location information must be provided with 9-1-1 texts delivered to PSAPs, and whether roaming should be supported. Comments are also sought regarding 9-1-1 issues related to future texting services. Many of the issues raised in the *Third FNPRM* will require technical input from text service providers, location technology providers, and others. APCO's comments below will briefly focus on broad issues of particular concern to PSAPs and public safety in general.

Location Information for Texts to 9-1-1

APCO believes that accurate, reliable, and usable location information is essential for the long-term effectiveness of text-to-9-1-1 capability. The goal should be to provide “dispatchable” location information to PSAPs to speed emergency response when the “caller” is unable to provide such information by keystroke.² The Commission is addressing this issue at a propitious time, as texting is growing in popularity and texting technology is evolving and migrating from Short Message Service (SMS) to newer Internet Protocol-based platforms involving Long Term Evolution (LTE) networks, Multi-media Messaging Service (MMS) and other “over-the-top” (OTT) applications. At the same time, PSAPs and their industry partners are developing and implementing Next Generation 9-1-1 (NG9-1-1) capabilities, including the ability to receive text messages, photos, video clips and other media. Thus, APCO recommends that the primary focus be on providing accurate, reliable, and usable location information for soon-to-be predominant texting technologies. Adding location capability to legacy SMS texts should not distract the

² Dispatchable location in this context would be the civic address of an individual seeking assistance via text (such as what is typically available from a landline phone), and for buildings, the floor and suite, apartment or other information when needed to adequately identify the individual's location.

relevant parties from important long-term location-related efforts that will have a more lasting impact on public safety.

The Commission proposes that, within two years, all interconnected text services, including SMS, be capable of delivering the “best available” location information to PSAPs. APCO supports the Commission’s proposal, provided that the SMS requirement would not divert significant resources that could be better spent on a more rapid deployment of dispatchable location technology for newer text services that will be widely used by the public long after SMS fades away. In addition, while APCO remains technology neutral, we urge caution regarding over reliance on older location technologies that fall short of providing dispatchable location information.

Delivery of dispatchable location information with texts is likely to require a migration from SMS to IP-based MMES systems, and the integration of a variety of location identification tools. Any interim location technology for SMS, such as U-TDOA, will only provide rough X,Y coordinates. For SMS, that may be the “best available” location. However, the Commission should carefully balance the imposition of an improved but still not ideal location solution for a declining SMS technology with the more important long term deployment of systems and technologies capable of delivering dispatchable location information. Additional steps will also be needed to compile location information from multiple sources (handset, network, “crowd sourced,” *etc.*), integrate it with advanced databases, and provide it to PSAPs in a useful format for accurate and efficient dispatch of emergency personnel.

As the Commission notes in the *Third FNPRM*, standardization of location technologies and PSAP interfaces will be essential for the success of improved location services. The standards bodies, including JSTD-110, have limited time and resources, and face an ongoing

stream of new issues generated by Commission actions. Therefore, the Commission should avoid imposing additional interim standards requirements for SMS if that would slow the standards process for more advanced and ultimately far more useful technologies and techniques necessary for the delivery of dispatchable text location information in an NG9-1-1 environment.

Roaming Support for Text-to-9-1-1

APCO strongly supports the Commission’s proposed requirement that text providers support roaming for text-to-9-1-1 within two years from the effective date of adoption of final roaming rules, if not sooner. A critical element of text-to-9-1-1 service is the ability to use at least “coarse” location information (*e.g.*, cell site) to route the text to the correct PSAP. However, as the Commission explains, “current SMS text delivery protocols do not allow for location information to be included with SMS texts-to-911 while roaming, which precludes the ability of covered text providers to route texts to an appropriate PSAP.”³ While APCO understands this current technical limitation, due to the specific design of the SMS architecture, all should recognize that this is a serious impediment to full adoption and effectiveness of text-to-9-1-1 services by both the general public and PSAPs. This is an unacceptable situation as it creates two classes of subscribers, those who are on their home network and can confidently send texts to 9-1-1 and reach the appropriate PSAP directly, and those who are roaming (often without their knowledge) and will receive a bounce back message and be unable to text any information to the appropriate PSAP.

Future Texting Services and 9-1-1

The Commission is to be commended for seeking comments on a variety of issues concerning 9-1-1 and future texting services. “Texting” is perhaps a misnomer in this context, as

³ *Third FNPRM* at ¶108.

it will include media such as video, photos, telematics, and even recorded voice.⁴ More and more texts are already being sent using Wi-Fi networks rather than CMRS mobile networks. The sheer size of the user base of certain texting applications, even if not interconnected, present new reasons to consider whether public safety principles should extend beyond typical CMRS or common carrier networks.

At the same time, these new texting services, and the multi-media capabilities that they afford, offer both opportunities and challenges for 9-1-1. The potential exists for the public to share critical real-time media concerning an emergency with PSAPs who, in an ideal world, will be able to transmit that information in an effective manner to first responders. However, much needs to be done within networks and PSAPs to make that possible and, in the interim, a gap will exist between the public's expectations and reality.

A major concern for PSAPs is the management of rich media text services in a manner that promotes, rather than hinders, public safety. Potential issues include how the media will be delivered, as major problems will occur if it is delivered via the current model of proprietary, disparate vendors and systems, with little or no interoperability between PSAPs or even between systems within a single PSAP. Fortunately, a core component of NG9-1-1 design is the delivery of MMES to the PSAP. APCO, NENA, ATIS and others are working on interoperability aspects, but these must be addressed from an IP based approach.

Another major concern with rich media text services is sheer volume. At least up to now, the volume of texts to 9-1-1 has been relatively limited. As the number of PSAPs able to accept text messages increases, and the number of citizen capable of reaching a PSAP increases accordingly, the volume will also increase. Implementation has been slow partly because text

⁴ Indeed, such capabilities are not so much in the future anymore. The recent Apple iOS update permits users to easily add recorded voice messages, and even a map with the user's location, with a text message.

provides a very limited ability to gain actionable information and text is slower than voice. However, multi-media will present a different situation. Video provides a tremendous opportunity to the PSAP for immediate, actionable data. However, processing that data, and ensuring interoperable communications within, and between, PSAPs and responders is the only way to make this a useful service. As the amount of multi-media increases, so will the amount of work required on the part of PSAP personnel. Triage of voice, text, video and photos will become a primary responsibility. Additional training, technology, and equipment will be needed, which will impose new costs on already financially strained PSAP operations.

Best practices will be an important element of IP-based and NG911 capabilities. APCO is currently working on an ANSI Standard for training in an NG9-1-1 environment, has published a best practices document for social media and the PSAP, and is working on a standard for apps to interface to the PSAP in a uniform fashion (until NG9-1-1 is fully implemented). Additionally, there are standards such as EIDD which address interoperability within and between PSAPs for voice, data and video use. Of course, the success of such standards and practices is reliant on local adoption and implementation.

Multimedia messaging (including those utilizing commercial location-based services), and IP networks (including those accessed by open Wi-Fi networks) also pose new cybersecurity concerns. There are three primary issues for PSAPs: (1) allowing outside actors access to the PSAP's network and systems; (2) spoofing of information (address, name, call back number, location, *etc.*) resulting in either false response or an active response to a non-threat; and (3) intrusion into the 9-1-1 system resulting in intentional mis-routing, deferral, or dropping of calls. Other cybersecurity-related concerns include the introduction of viruses into the PSAPs, DDoS attacks, Phishing scams, release of confidential (CJIS or HIPAA) information, and reverse

location of responders (via mobile data systems tied in to the PSAP). This is an area that must be given priority and resources should be dedicated to cybersecurity in the NextGen environment.

CONCLUSION

Therefore, subject to the concerns addressed above, the Commission should proceed with its proposed rules and continue to address evolving text-to-9-1-1 and NG9-1-1 issues.

Respectfully submitted,

APCO INTERNATIONAL

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