Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of:	)	
	)	
Office of Engineering and Technology Announces Technological Advisory Council (TAC) Technical Inquiry Into Reforming Technical Regulations	)	ET Docket No. 17-215
	)	
	)	

COMMENTS OF THE NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL

The National Public Safety Telecommunications Council (NPSTC) submits these comments in response to the Public Notice in the above captioned proceeding.[1] The Public Notice seeks comment on technical regulations that could be removed, combined, or retained and updated, as well as processes to resolve competing interests and issues surrounding the industry standards. These issues are presented in seven sets of specific questions.

In these comments, NPSTC addresses the issues that it believes are particularly pertinent to the public safety community.

[1] Public Notice, *Office of Engineering and Technology Announces Technological Advisory Council (TAC) Technical Inquiry Into Reforming Technical Regulations*, ET Docket No. 17-215, released August 30, 2017.

The National Public Safety Telecommunications Council

The National Public Safety Telecommunications Council is a federation of public safety organizations whose mission is to improve public safety communications and interoperability through collaborative leadership. NPSTC pursues the role of resource and advocate for public safety organizations in the United States on matters relating to public safety telecommunications. NPSTC has promoted implementation of the Public Safety Wireless Advisory Committee (PSWAC) and the 700 MHz Public Safety National Coordination Committee (NCC) recommendations. NPSTC explores technologies and public policy involving public safety telecommunications, analyzes the ramifications of particular issues and submits comments to governmental bodies with the objective of furthering public safety telecommunications worldwide. NPSTC serves as a standing forum for the exchange of ideas and information for effective public safety telecommunications.

The following 16 organizations serve on NPSTC's Governing Board:[2]

American Association of State Highway and Transportation Officials
American Radio Relay League
Association of Fish and Wildlife Agencies
Association of Public-Safety Communications Officials-International
Forestry Conservation Communications Association
International Association of Chiefs of Police
International Association of Emergency Managers
International Association of Fire Chiefs
International Municipal Signal Association
National Association of State Chief Information Officers
National Association of State Emergency Medical Services Officials
National Association of State Foresters
National Association of State Technology Directors
National Council of Statewide Interoperability Coordinators
National Emergency Number Association
National Sheriffs' Association

[2] These comments represent the views of the NPSTC Governing Board member organizations.

Several federal agencies are liaison members of NPSTC. These include the Department of Homeland Security (the Federal Emergency Management Agency, the Office of Emergency Communications, the Office for Interoperability and Compatibility, and the SAFECOM Program); Department of Commerce (National Telecommunications and Information Administration); Department of the Interior; and the Department of Justice (National Institute of Justice, Communications Technology Program). Also, Public Safety Europe is a liaison member. NPSTC has relationships with associate members: The Canadian Interoperability Technology Interest Group (CITIG) and the Utilities Technology Council (UTC), and affiliate members: The Alliance for Telecommunications Industry Solutions (ATIS), Open Mobile Alliance (OMA), Telecommunications Industry Association (TIA), TETRA Critical Communications Association (TCCA), and Project 25 Technology Interest Group (PTIG).

NPSTC Comments

The Commission's Office of Engineering and Technology (OET) has announced a public inquiry being spearheaded by the Technological Advisory Council (TAC) concerning potential updates of technical rules. The related Public Notice does not specify any particular rules involved in this inquiry, but instead seeks input at a more general policy level. The Public Notice sets forth seven sets of questions that cover a range of issues, and seeks comment on technical regulations that could be removed, combined, or retained and updated, as well as processes to resolve competing interests, and issues surrounding the industry standards. The NPSTC Comments will focus primarily on issues we believe are relevant to the public safety community. Following are the sets of questions as listed in the Public Notice with NPSTC responses.

1. Regulations that should be removed because they have become outdated, inhibit innovation or would be better handled by the involved parties. What would replace such regulations if they are removed?

Without doing an exhaustive rule-by-rule search, as an overall policy matter, NPSTC is not aware of significant technical rules related to public safety that do not serve some purpose and need to be completely removed. That said, there may be some rules that need to be updated or modified, as addressed in the response to question 3.

2. Regulations that should be retained because they promote competition, protect incumbents from interference, regulate unlicensed frequencies, are necessary to comply with international agreements, or support the purpose of the FCC.

In NPSTC's view, most of the technical rules administered by the Commission have one or more of the above-listed benefits. There are a number of technical rules designed to help protect licensees from interference. In fact, most of the technical regulations in Part 90 of the rules in one way or another fall into this category. For example, power and antenna height limits help define the basis for private sector frequency coordination that minimizes interference among co-channel public safety and industrial/business licensees and applicants. Similarly, emission mask limits help minimize adjacent-channel interference. Rules modified several years ago to require bi-directional amplifiers to automatically shut off when they go into a self-oscillation mode also help prevent interference.

There are also rules in other services that help address interference between dis-similar services. For example, historical rules that require commercial carriers at 800 MHz to address any interference to public safety operations serve a very valid purpose. Unfortunately, while the current policy drive toward increased "flexibility" and "spectrum sharing" may be beneficial for commercial carriers and unlicensed operations, the associated technical rules that accompany such flexibility can result in an increased risk of interference for existing services. There must be a proper balance of protection and flexibility, with appropriate technical rules.

3. Regulations that should be modified because technical reporting requirements are too burdensome, data contained in the reports are no longer used, or existing regulation does not fully apply to new technology. If the technical requirements are too burdensome, should the FCC automate existing reporting or leverage other data or reporting from third parties or organizations?

NPSTC believes some of the historical technical regulations applicable to unintentional radiators under Part 15 need to be updated, given the significant changes in technology that have occurred since the rules were originally developed. First, these rules were largely developed with a more specific focus of protecting television sets from receiving interference caused by unintentional radiators such as computers and computer peripherals. Therein lies the basis for more restrictive "Class B" radiation limits in residential areas with less restrictive "Class A" limits in industrial or commercial areas.

Since those rules were adopted, technology has advanced many times over and electronic circuity of the type that was once largely confined to computers has found a myriad of beneficial uses. For example, just a few short years ago, most lighting in homes and industrial or manufacturing operations were either incandescent or fluorescent lights with transformer type ballasts. That has rapidly transitioned to more energy-efficient lighting using light-emitting diodes (LEDs) and electronic ballasts. Along with that transition, which is beneficial from an energy-efficiency standpoint, comes a higher risk of interference from lighting as unintentional radiators, especially if the equipment is comprised of poor quality imports. A NPSTC report on Radio Frequency (RF) Interference from Energy Efficient Lighting issued June 30, 2015 documented some cases of interference public safety had received.[3]

4. Processes to resolve competing interests: Is there a better way to mediate conflicts between different parties, perhaps that is quicker and does not require as many resources from interested parties? Is there potential for a 'body' other than the FCC to host this role and what are the legal impediments, if any, to delegating certain conflict mediations to other parties? How would a new process work?

In NPSTC's view, it is preferable to minimize conflicts at the outset, to the degree possible. Bodies other than the Commission have been involved in doing so for many years. As noted in the response to question two above, private sector frequency coordinators serve a valuable function in minimizing co-channel and adjacent channel conflicts among Part 90 licensees. Such frequency coordination is essential to public safety and is a long-standing example of the Commission using external parties to

[3] http://www.npstc.org/download.jsp?tableId=37&column=217&id=3467&file=RF_Interference_from_Energy_Efficient_Lighting_Report_Final_20150630.pdf

make the system of spectrum management work and help prevent "within-service" conflicts from arising prior to authorization of a new or modified system.

When interference does occur, it is more likely to be between disparate services. It is relatively rare that any major metropolitan public safety agency experiencing interference does not first try to detect an interference source and work with an offending licensee to resolve the problem. Frequency coordinators may also engage in assisting when interference problems arise. However, as an overall policy, NPSTC believes there must continue to be an expert governmental entity such as the Commission with the authority to address conflicts and competing interests.

Overall, NPSTC believes that public safety and industry have significant confidence in the current Office of Engineering and Technology as a fair and knowledgeable arbiter of conflicts during the rulemaking process, to the extent engineering factors are provided the proper weight in decision-making. Given the dirth in the number of engineers in the various Bureaus, together with the increasing technical complexity given policy interest in spectrum flexibility, NPSTC believes it is essential for the Commission to maintain and support a sound OET organization and leadership and increase its overall pool of engineering talent throughout the entire agency.

If and when interference does arise after the fact, another significant benefit of having the Commission involved is that its field agents have the authority to require resolution, even if a licensee knows the source of the interference. There is no substitute for such authority, especially if an interference conflict becomes contentious among the parties involved.

5. Regulations that can be combined: What general principles that apply to all forms of a type of communication?

NPSTC believes that in general, regulations must be tailored to the given spectrum and operations involved. However, when spectrum bands are essentially fungible for a given category of licensees, some combination of technical regulations may be possible. For example, from a public safety perspective, there may be some benefit in studying what rules could be harmonized for public safety operations across the 700 MHz and 800 MHz bands. Most narrowband equipment offered in the public safety market today for 700 MHz also includes channels in the 800 MHz band. However, there are non-technical policies that can inhibit a wholesale combination of the rules applicable to the 700 and 800 MHz bands. As just one example, the eligibility rules at 700 MHz differ with those at 800 MHz, based on statutory limitations that were adopted when the 700 MHz spectrum was made available. Therefore, care must be taken to understand such nuances in any effort to combine rules.

6. How should the FCC approach coordination between regulations and standards bodies or industry consortia? Should regulations be written by leveraging industry standards? How should the regulatory process (which must be available to all parts of our society) be tied to the standards update process? How would the requirement for public availability of documents related to federal rules be met when referenced standards are copyrighted? How can regular changes to standards upon which regulations are based be propagated to the rule making processes that are required when regulations are changed?

First, there are different categories of "standards" in the marketplace that need to be recognized in any discussion of regulation and industry standards. These include actual documented standards developed in an accredited standards body such as 3GPP, TIA, NFPA, etc., as well as general de-facto industry standards and manufacturer-specific standards.

For the most part, NPSTC recommends that a standard needs to be from an accredited standards body and should be well accepted by the licensees to which a given set of technical rules are relevant to be incorporated into the Commission's rules. For example, NPSTC recommended, and the Commission adopted, the ANSI-accredited Project 25 (P-25) standard as the interoperability standard for the 700 MHz public safety narrowband spectrum. Similarly, NPSTC supported, and the Commission adopted, Long Term Evolution (LTE) as the standard for the public safety broadband spectrum at 700 MHz.

However, adopting standards from accredited standards bodies can raise two challenges that need to be addressed. First, the standards update process is generally faster than the rulemaking process. One solution of course is to improve the speed of the rulemaking process, which would have benefits beyond merely the incorporation of standards. If that cannot be accomplished, some provisions need to be made in the rule language automatically to incorporate updates when there is a revised version of the relevant standard that is backward compatible with a previous version.

Second, as noted in the Public Notice, a standards body may have a given standard copyrighted. When that occurs, the body normally views the standard as its intellectual property and charges a fee to obtain the standard documents. NPSTC agrees with the Commission that the public should not

have to pay for standards that are incorporated into the rules and believes that standards bodies must address how this can be managed. It is NPSTC's understanding that the National Fire Protection Association (NFPA) makes its NFPA 1221 standard for in-building communications available free for viewing, however, charges when the standard is downloaded or printed. This may be only a partial solution, but could be the starting point for discussions.

NPSTC also believes there are situations in which a standard is technically behind the times, but is historically imbedded in the licensing process to the degree that changing the standard may be difficult. As an example, the Commission still uses R6602 curves for co-channel licensing studies, even though more accurate models accepted by the engineering community are available.

7. How can FCC work processes best be improved? Increasing use is made of external multistakeholder groups to develop complex technical requirements, systems, and procedures necessary to implement Commission service rules. How can the Commission leverage these efforts to accelerate the introduction of new technologies and services?

NPSTC believes this is a complex issue with numerous considerations involved. However, we believe that this begins by finding ways to improve the efficiency of the overall rulemaking process. Earlier this year, the current Commission implemented a beneficial process change resulting in greater transparency by publishing draft versions of Commission items once an item is circulated among the Commissioners. From the perspective of those subject to Commission regulations, this seems so logical and yet, had not been done before to NPSTC's knowledge.

Similarly, are there steps the Commission could take to speed the process, thereby improving it? For example, we suspect there are some decisions that are relatively minor, though nonetheless important to the party or parties that requested them. Waiting multiple years for these decisions may be particularly problematic for an agency or other entity. Could the Commission speed the process if such issues were pulled off onto a different track from more major controversial issues? Such "minor category" decisions also may not suffer significantly if the normal extensive legal analysis and write-up were streamlined. NPSTC does not pretend to have the full answer, but we believe such steps are worth exploring.

NPSTC plans to participate in the multi-stakeholder forum regarding 800 MHz scheduled for November 6, and will reserve comment on the specific benefit of such multi-stakeholder events, pending the outcome of that initiative. In general, NPSTC believes there is great benefit to collaboration, especially when there is a common goal shared by the stakeholders involved.

Conclusion

NPSTC appreciates the opportunity to provide input into the TAC inquiry. Overall, NPSTC believes the Commission's rules are generally sound and serve a key purpose to help prevent interference among co-channel and adjacent channel licensees and between licensees in multiple services. From a public safety perspective, the rules serve as a foundation for effective private sector frequency coordination, which is essential to public safety and industrial/business operations. Private sector frequency coordination is an area in which the Commission has long relied on third parties to make the rules work effectively.

However, increased reliance on spectrum flexibility and sharing among disparate services and operations is likely to yield an increased risk of interference. NPSTC recommends the Commission strive to support and increase its pool of engineering talent. Actually resolving conflicts in a future environment with increased spectrum sharing will likely require additional engineering support.

When conflicts do arise, NPSTC believes there is great benefit to collaboration among parties, particularly if the various stakeholders involved share a common goal. Public safety agencies that experience interference already work with offending licensees to the extent possible to resolve problems, sometimes without Commission intervention. However, as an overall policy, NPSTC believes there must continue to be an expert governmental entity such as the Commission with the authority to address conflicts and competing interests.

For the most part, NPSTC recommends that a standard needs to be from an accredited standards body and should be well accepted by the licensees to which a given set of technical rules apply to be incorporated into the Commission's rules. Given the standards update process is generally faster than the rulemaking process, the Commission needs to take steps to improve the speed of the rulemaking process, which would have benefits beyond merely the incorporation of standards. Also, some provisions need to be made automatically to incorporate updates when there is a revised version of the relevant standard that is backward compatible with a previous version. NPSTC agrees that the public should not have to pay for standards incorporated into the rules and believes that standards bodies must address how this can be managed.

Also, as addressed herein, NPSTC recommends the rules applicable to Part 15 unintentional radiators be updated, given the significant changes in technology that have occurred since the rules were originally developed.

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