



FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

OFFICE OF
THE CHAIRMAN

October 15, 2010

The Honorable José Serrano
Committee on Appropriations
Subcommittee on Financial Services and General Government
U.S. House of Representatives
B-300 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Serrano:

Attached please find my responses to the additional post-hearing questions from my appearance before the Committee on June 9, 2010. Please let me know if I can be of further assistance.

Sincerely,

A handwritten signature in black ink, consisting of a stylized 'J' followed by a horizontal line and a small dot at the end.

Julius Genachowski

SUBCOMMITTEE ON FINANCIAL
SERVICES AND GENERAL
GOVERNMENT

HEARING

ON

THE FY 2011 BUDGET REQUEST OF
THE FEDERAL COMMUNICATIONS
COMMISSION

Questions for the Record

for

The Federal Communications Commission

June 9, 2010

Please return to the Subcommittee on Financial Services and General Government
by
July 13, 2010

**Questions for the Record
Submitted by Chairman Serrano**

Auctioning of Spectrum now Held by Broadcasters

The Broadband Plan proposes that broadcasters be allowed to give up some of their spectrum in return for some of the auction proceeds. The broadcasters strongly objected to the possibility that some of their valuable and underutilized spectrum might be taken away involuntarily.

1. Could you describe the extent to which this spectrum is underutilized and why it is valuable?

RESPONSE:

The spectrum currently used by television broadcasters, particularly in the UHF band between 470 MHz and 698 MHz, is ideally suited for mobile broadband uses for a number of reasons. First, the propagation characteristics of this band allows for wide coverage areas, which reduces the need for dense network builds that require many towers, and therefore reduces the cost of deployment. Second, this band allows for better in-building penetration, which also simplifies the network build and provides a better consumer experience. Third, the UHF band is wide enough to configure into nationwide blocks, which is the optimal configuration as data traffic increases dramatically in the coming years.

I believe that some of the UHF spectrum can be put to a higher and better use for wireless broadband for a number of reasons. Use of the mobile Internet and other mobile applications continues to increase at a rapid rate, while television viewing over the television spectrum has been declining since the late 1980s. Indeed, nearly 90% of Americans do not rely solely on over-the-air as the means for receiving television programming. In addition many broadcasters have not yet taken advantage of the additional capacity afforded to them by the digital transition – either through multicasting, high definition television or mobile DTV – and thus some portion of this valuable spectrum remains unused. My aim is to find ways to ensure the vitality of broadcasting while improving the efficient use of this precious resource. One possible solution to this is channel-sharing. Channel-sharing takes advantage of the benefits of the DTV transition while also making most efficient use of television spectrum by enabling two television stations to operate on one 6-megahertz channel, while preserving their ability to broadcast in HD or broadcast multiple streams, including mobile streams. Another efficiency enhancement resulting from our incentive auction proposal is the planned post-

auction repacking, which will result in a much more efficient allocation of television spectrum, and correct some of the legacy inefficiencies that have historically plagued the band for the past many decades.

2. What are the prospects and timeframe for implementing this proposal in the Broadband Plan?

RESPONSE:

We have proposed and are seeking Congressional Authority to implement a voluntary program by which only those broadcasters that want to contribute spectrum to the auction would do so, and would be able to exchange their spectrum for a portion of the auction proceeds. If granted by Congress we can move expeditiously to implement a completely voluntary program in the next few years.

Small Business

There is a huge digital divide in this country. Even small business owners, especially those in disadvantaged areas, may not be as technology savvy as they need to be in order to promote their goods and services and transact business online. The Broadband Plan includes a digital literacy initiative that promotes partnership between SBA's SCORE program and private sector partners to provide education and training to small businesses.

3. What are the major impediments to faster implementation of IT among small businesses?

RESPONSE:

The challenges that small businesses, located in disadvantaged areas, face in utilizing broadband to grow their businesses certainly include, but are not limited to, insufficient digital literacy. Many of the areas where such small businesses are located lack access to high-speed internet. Where infrastructure is lacking digital literacy becomes a moot point. It is not uncommon for at-risk communities to be the last on the list to receive advanced cable, fiber optics or enhanced telephone services. In most rural counties, nearly 50% of businesses lack access to broadband at speeds of 4 Mbps or higher.

In areas with high-speed connectivity, many small businesses find their broadband communications services to be too slow and they lack choices to select alternative hardwire or wireless service providers. Finally, small businesses pay an average of

three times more per employee than large businesses for comparable broadband services.

Broadband Service in the Territories

During the hearing I asked about your decision to decline to institute an insular wireline program. I understand that part of the reason for this decision was the recent increase in telephone subscribers in Puerto Rico, which has presumably been largely driven by new wireless service. This is wonderful news for telephone service.

- 4. As we move forward with implementing broadband for all Americans, including equal service for those in the territories, do you think that broadband will require wireline service? If so, how do you plan to address the ongoing lack of sufficient wired infrastructure in Puerto Rico?**

RESPONSE:

I am committed to ensuring that all Americans, including those in the territories, have access to high-quality broadband and voice service. To achieve this goal, the National Broadband Plan recommended that the Commission create a Connect America Fund (CAF) to directly support broadband and voice service in areas that are unserved, as well as areas that are currently served with the assistance of high-cost universal service support. Consistent with the principles of competitive and technological neutrality, the Plan further recommended that any broadband provider that can meet or exceed the specifications set by the FCC for the provision of broadband and voice service should be eligible to receive support under the CAF. This could include wireline, wireless, and satellite broadband providers.

I have committed to initiate a rulemaking in the near term that would seek comment on these issues, among other things. I also anticipate that we would seek comment on whether unique circumstances exist in insular areas and how any unique circumstances should be taken into account, as we did in the April 21, 2010 rulemaking that initiated reform of the high-cost universal service program.

Questions for the Record
Submitted by Ranking Member Emerson

Emergency Response Interoperability Center

Your budget request proposes a \$1.5 million increase to establish an Emergency Response Interoperability Center to ensure the operability and interoperability public safety wireless broadband communications. Several other Federal agencies work with public safety agencies on interoperable communications including the National Institute of Standards and Technologies, the Department of Justice and the Department of Homeland Security.

- What work will this Center perform that is unique to the FCC's mission?
- How will you ensure that the Center's efforts are well coordinated with Justice, Homeland and NIST?

RESPONSE:

The Commission established the Emergency Response Interoperability Center (ERIC) in connection with its ongoing rulemaking proceeding to establish a nationwide, interoperable public safety broadband network in the 700 MHz band. The mission of ERIC is to ensure that the public safety broadband network will be fully operable and interoperable on a nationwide basis, both day-to-day as well as during times of emergency. To accomplish this mission, ERIC is tasked by the Commission with implementing national interoperability standards and developing technical and operational procedures for the network. The Commission has jurisdiction to implement these requirements and procedures under Sections 1, 4(i), 4(j), 5(b), 5(c), 201(b) and 303(r) of the Communications Act of 1934, as amended.

In terms of coordination, ERIC is already actively working with the Department of Justice, the Department of Homeland Security, and the Department of Commerce, including the National Institute of Standards and Technology and the National Telecommunications and Information Administration. ERIC has established a weekly meeting with these Federal partners to ensure that work to further the development of the interoperability framework for the public safety broadband network is well-coordinated. In addition, ERIC is performing regular outreach with each of these Departments. The Commission is also in the process of finalizing Memorandums of Understanding relating to ERIC with several of these federal partners to further the coordination effort.

On April 23rd, the Commission announced the establishment of the Center.

- If the Center is being established this year instead of in fiscal year 2011, do you still need a \$1.5 million increase for fiscal year 2011?

RESPONSE:

Yes. The FCC established ERIC in 2010 because it was critical that ERIC begin its work as soon as possible. The Commission has recently granted authority to 21 state and local jurisdictions to begin broadband network deployment. In order to ensure that these deployments are interoperable from the outset, and will support nationwide interoperability in the long run, ERIC must establish initial interoperability requirements starting in the next few months. To date, however, ERIC has been staffed with existing resources, and current staffing levels will not provide sufficient resources for ERIC to fully perform its important role after this fiscal year. Further, the current FCC budget does not account for the necessary travel and other expenses that will be required for ERIC to work with the public safety community, equipment vendors, and Federal partners to perform its mission. Therefore, increased fiscal year 2011 funding is critical if ERIC is to have an impact on the recently authorized state and local efforts.

Consolidated Out-Dated IT Licensing Systems

Your budget request proposes a \$1.4 million increase to continue work begun in fiscal year 2009 to consolidate and upgrade your licensing systems. I understand that many of these systems are more than 10 years old.

- How many years will this consolidation take and how much total funding do you estimate will be needed?
- Do you have experienced IT program and contract management staff in place to successfully implement a multi-year and multi-million IT project?

RESPONSE:

Full consolidation of the licensing systems is anticipated to take approximately five years. The implementation of the new system is being pursued in phases so that existing legacy systems are replaced on a rolling basis beginning in Fiscal Year 2011. The full acquisition cost for the system is approximately \$22 million; however, most of the funds will be provided through offsets from deferred system and lifecycle maintenance on the existing legacy systems. As such, the Commission has only sought a net increase in \$4.5 million over the fiscal years 2009 through 2011 - \$1.5 million in this year's budget submission. As legacy systems are retired in FY 2011, future year acquisition funds will be supported by the cost savings derived from the new, more efficient licensing platform.

The FCC has several experienced IT Program Management and Contract Management staff in place to successfully implement a multi-year and multi-million IT project. Many of the IT Managers currently employed by the Commission have previously developed and deployed large information management systems comparable to that being pursued in this consolidation effort.

Staffing Increase

Your budget request proposes 75 additional staff. I am interested in learning more about the work that these additional staff would perform.

- Can you tell us how many staff would be engineers or technology experts that would provide assistance to first responders, local governments and service providers?
- How many additional staff would be attorneys working to implement controversial new regulations?

RESPONSE:

The additional staff will be devoted primarily to implementing the National Broadband Plan, increasing our openness and transparency, and strengthening our role in government and industry cyber-security preparedness. The specific allocations by occupation have not been finalized, but will include engineers, attorneys, economist/econometricians, statisticians, business and market analysts and data analysts and architects. One example of how we propose to allocate these additional staffing resources includes a projected increase of more than 30 positions in the areas of public safety and homeland security. To support our expanded public safety and homeland security goals, we will need attorneys with expertise in privacy law and homeland security compliance requirements as well as engineers and data analysts able to understand the technical needs of the public safety communities nationwide.

Cyber Security Certification Program

Recently, the Commission issued a Notice of Inquiry seeking input on the establishment of voluntary cyber security certification program to encourage communications service providers to implement a full range of cyber security best practices. I am pleased that the Federal government is increasing its efforts to address cyber security. As our use of broadband and mobile technologies increase, more and more of our personal information is vulnerable to criminals and espionage. However, the Department of Homeland Security is the lead Federal agency addressing cyber security in the United States.

- What unique role does the FCC play in the area of cyber security?

RESPONSE:

The FCC's role is to promote "a rapid, efficient, Nation-wide, and world-wide wire and radio communications service" to the American public. Among the Commission's statutory purposes for carrying out this role is doing so "for the purpose of national defense [and] for the purpose of promoting safety of life and property through the use of wire and radio communication." In times of emergency, the Commission's primary mission becomes more focused on these purposes, i.e., ensuring that essential communications networks and services are operable, reliable, and quickly restored. Given its statutory role, the FCC has a unique role to play in adopting rules and policies to strengthen the critical communications infrastructure, and in maintaining the reliability and security of communications networks.

Most cyber attacks are not an attack *on* the communications infrastructure but an attack *through* it. Targets are more often the information systems that lie across the communications infrastructure from attackers, and the communications infrastructure is merely an unwilling enabler. The communications infrastructure is not immune to cyber attacks, though, and a successful attack on this critical infrastructure could be crippling to our nation's way of life. The FCC, in concert with other Federal agencies and in cooperation and partnership with the private sector, has a role to play in preventing cyber attacks and mitigating their effects when they do occur. The Commission's unique role in this team effort is on the protection of the critical communications infrastructure against cyber attacks. We do, of course, stand ready to support our Federal partners in efforts to respond to a cyber attack.

The Commission is considering several measures to strengthen the security of the nation's critical communications infrastructure to prevent and withstand cyber attacks. The National Broadband Plan, which the Commission released in March after gathering and considering a substantial record, includes recommendations to strengthen the cyber security of the critical communications infrastructure. Following up on these recommendations, the Commission is actively considering:

- Establishing a voluntary cyber security certification program to create additional incentives for industry implementation of important security methods and procedures.
- Creating cyber security information reporting systems to help us monitor the

health of the network and provide us with data with which to work with communications providers on preventative measures.

- Taking steps to improve the communications infrastructure resiliency, thereby mitigating the effect of cyber attacks.
- Discussing cyber security issues with international organizations and the regulatory authorities of other nations.
- Finally, the Commission is formulating a roadmap, in coordination with the Executive Branch, that will identify the five most critical cybersecurity threats to the communications infrastructure and its end users, including a two-year plan for the FCC to address these threats.

Moreover, the FCC chartered a new federal advisory committee, the Communications Security, Reliability and Interoperability Council (CSRIC), which held its first meeting Dec. 7, 2009. The Council is expected to recommend actions to enhance the security, reliability and resiliency of America's communications systems.

- How are you coordinating your efforts with the Department of Homeland Security?

RESPONSE:

To ensure that our cybersecurity efforts are effective, the FCC is building successful policies and programs, while coordinating with the White House Cyber-Security Coordinator, Howard Schmidt, and with the Department of Homeland Security (DHS). The FCC staff has met not only with Mr. Schmidt but also with several members of his staff. We have also met with Rand Beers, DHS Under Secretary, National Protection & Programs Directorate; Philip Reitingger, DHS Deputy Undersecretary of National Protection and Programs Directorate; and Greg Schaffer, Assistant DHS Secretary for Cybersecurity and Communications. We have discussed with them what the FCC is doing at sector-specific coordinating councils hosted by DHS. Moreover, the FCC staff participates in interagency groups, such as the DHS National Communications System (NCS), to coordinate government cyber security and other communications network security policy, and the Joint Telecommunication Resources Board (JTRB), which provides expert counsel and recommendations on communications issues to the Director of the White House Office of Science and Technology Policy (OSTP). Further, our staff

monitors daily appropriate sources of information (e.g., trade journals, professional newsletters, the Federal Register, etc.) for any developments within our sister agencies that may have an impact on the FCC cybersecurity efforts.

- Will your efforts create confusion among service providers and consumers if multiple agencies are working on similar programs to address the same problem?

RESPONSE:

Currently DHS does not have an effort that is similar to the voluntary cyber security certification program or other programs that the FCC is considering. Also, as mentioned above, the FCC's focus has been on cybersecuring the critical communications infrastructure, which has not been the primary focus of other agencies. In this respect the Commission has not been working directly with consumers, but rather with their communications service providers. Typically, these service providers have a very sophisticated understanding of the FCC's role in promoting safety of life and property through the use of wire and radio communications. Virtually all of these providers are acutely aware of the major cybersecurity problems that confront the nation, and their efforts are to be commended as many are making security software available to their customers, frequently free, in their efforts to protect their customers' computers from malware. Recognizing this difficult challenge, many providers welcome the Commission's efforts to secure cyberspace.

Retransmission Consent

This spring I met with several small cable providers who expressed concern regarding existing retransmission consent regulations. Many of these operators are paying significantly higher rates for the same content than larger operators, and I share their concerns that small companies and their customers (my constituents) in rural American are being overcharged for service. I understand the FCC is reviewing the retransmission consent issue.

- Could you update Committee regarding the status of this review?

RESPONSE:

Given recent concerns raised that the Commission's current retransmission consent policies need a fresh look, I directed the Media Bureau to begin a review of our retransmission consent regulations to determine whether the existing framework

continues to be effective or whether reforms may be necessary to protect consumers and ensure fairness to all parties.

Subsequent to the commencement of the Bureau's review, a coalition representing a number of MVPDs and public interest groups submitted a *Petition for Rulemaking* seeking to reform the retransmission consent rules. Among other things, the *Petition* proposes that the Commission establish new mechanisms that provide for mandatory arbitration when a MVPD and the broadcaster are not able to reach a retransmission consent agreement, continued carriage of broadcast signals during the negotiation or dispute resolution process, and the adoption of rules to address the practice of tying broadcast programming to the carriage of non-broadcast services. The Media Bureau issued a *Public Notice* inviting public comment on the proposals and issues discussed in the *Petition*. The comment period recently closed and we received comments from a broad range of interested parties, including consumers, programmers, broadcasters and MVPDs that serve small and rural areas. The Media Bureau currently is reviewing the record compiled in the proceeding and will draft recommendations regarding how the Commission should proceed.

Questions for the Record
Submitted by Congressman Culberson

You have asked for a significant increase in your FY'11 budget for personnel—75 FTE's which would represent a 10% increase (185 FTE's) over five years. While I understand the needs that are represented by the implementation of the broadband plan, as stewards of the taxpayer's dollars, I think we should be wary about adding employees to the federal payroll.

- As you yourself have noted, we are transitioning to a broadband world, so rather than hiring additional staff, could you examine re-tasking current employees?

RESPONSE:

Not since the enactment of the Telecommunications Act of 1996 has the FCC been charged with such an ambitious new set of requirements. At the time of the 1996 Act, the FCC had increased its staffing level from a low of 1753 FTEs in 1993 to 2112 FTEs in 1995. This influx of new talent and expertise allowed the FCC to implement the complex requirements of the 1996 Act fully and on time. Today, the FCC is charged with an equally ambitious agenda but with a much smaller workforce lacking the needed skills. Our current workforce of 1830 FTEs at the end of FY 2010 is fully engaged with our ongoing commitments, and therefore not available for re-tasking. The additional positions are essential to the completion of our additional requirements such as implementing the National Broadband Plan, examining the future of media, increasing our openness and transparency, and strengthening our role in government and industry cyber-security preparedness. Even with these new positions, our staffing will still remain well below historical levels.

I am concerned about how much resources the FCC will use up as it attempts to regulate broadband instead of trying to encourage broadband adoption and deployment.

- How long was it between the time that the FCC decided the *Comcast-Bit Torrent* case and the time it was reversed by the Court of Appeals?

RESPONSE:

The FCC issued the Memorandum Opinion and Order at issue in *Comcast Corp. v. FCC* on August 20, 2008. The D.C. Circuit issued its decision in *Comcast Corp. v. FCC* approximately a year and a half later, on April 6, 2010.

No one doubts that if the FCC decides to regulate broadband, those new rules will be challenged in court.

- Assuming this challenge goes to the Supreme Court, how long would that take?

RESPONSE:

Historically, when the Supreme Court has reviewed a Commission order, its decision has been issued approximately two to three years after the FCC order. For example:

- On November 6, 2006, the Commission released an order finding that utterances in two awards shows broadcast on television were indecent. *See Complaints Regarding Various Television Broadcasts Between February 2, 2002 and March 8, 2005*, 21 FCC Rcd 13299 (2006). The United States Court of Appeals for the Second Circuit vacated the Commission's order. *See Fox Television Stations, Inc. v. FCC*, 489 F.3d 444 (2007). The Supreme Court reversed the judgment of the Second Circuit and remanded the case on April 28, 2009, roughly two years and six months after the Commission released its order.
- The Commission released a declaratory ruling classifying cable modem service as an information service on March 15, 2002. *See Inquiry Concerning High Speed Access to the Internet Over Cable and Other Facilities*, 17 FCC Rcd 4798 (2002). The Supreme Court upheld the Commission's ruling three years and three months later, on June 27, 2005. *See NCTA v. Brand X Internet Services*, 545 U.S. 967 (2005).
- The Commission released its Local Competition Order, which implemented provisions of the Telecommunications Act of 1996, on August 8, 1996. *See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, 11 FCC Rcd 15499 (1996). The Supreme Court upheld the Commission's order in part two years and five months later, on January 25, 1999. *See AT&T Corp. v. Iowa Utilities Board*, 525 U.S. 366 (1999).

It should be noted that if the Commission were to alter its legal framework for broadband Internet services, the ensuing court challenge to that change might well be completed years earlier than the alternative path of litigating the Commission's jurisdiction to issue various substantive orders on a case-by-case basis under the current legal framework and the recent *Comcast* decision.

- How much taxpayer money will be spent defending the FCC's new rules?

RESPONSE:

Any defense would be performed by existing FCC staff which is funded by regulatory fees. Regulated companies and other interested persons routinely file lawsuits challenging final FCC actions (as well as non-final actions, which are not properly reviewable by the courts). Lawsuits are filed regardless of whether the Commission comes out one way or the other, and it is impossible to quantify the incremental cost of adopting one particular legal or policy approach, as opposed to an alternative path. As noted above, if the Commission were to alter its legal framework for broadband Internet services, the ensuing court challenge to that change might well be faster and less expensive than the alternative path of litigating the Commission's jurisdiction to issue various substantive orders on a case-by-case basis under the current legal framework and the recent *Comcast* decision.

- Can you please explain the specific problem you are trying to address with your proposal to dramatically increase the level of regulation on Internet Service Providers?

RESPONSE:

The recent decision of the United States Court of Appeals for the D.C. Circuit in *Comcast v. FCC* casts doubt on whether the legal framework the Commission chose for broadband Internet services nearly a decade ago is adequate to achieve widely supported broadband policies, which prior Commissions thought they had legal authority to implement. To evaluate its options, the Commission adopted a *Notice of Inquiry* at its June 17 Open Meeting to initiate a public discussion on how the Commission should proceed in light of *Comcast*. The *Notice* does not propose to increase regulation on Internet Service Providers. Rather, the *Notice* seeks comment on all options, and invites any ideas for how the Commission

should proceed, including: maintaining the current “information service” classification of services such as cable modem and DSL Internet access; classifying broadband Internet connectivity service as a “telecommunications service” to which all the requirements of Title II of the Communications Act would apply; and a “third way” – similar to the highly successful approach that has been used for cell phone services since 1993 – under which the Commission would identify the Internet connectivity service that is offered as part of wired broadband Internet service as a telecommunications service and forbear from applying all provisions of Title II other than the small number that are needed to implement fundamental universal service, competition and market entry, and consumer protection policies. I am enclosing a copy of the *Notice* for your information. The reply comment period closed on August 12 and the Commission staff is currently reviewing the large volume of responses in the record.

- What industry wide problem exists today among Internet service providers that warrants the government having unfettered ability to regulate Internet rates and micromanage network engineers?

RESPONSE:

Neither the *Open Internet Notice of Proposed Rulemaking* nor the recently adopted *Notice of Inquiry* propose regulating Internet rates or micromanaging network engineers. The *Notice of Inquiry* is not about unbundling and price regulation. Rather, it is about fixing the basic legal foundation for broadband policy, which will enable us to accomplish widely supported goals, including reforming universal service to ensure all Americans can enjoy the benefits of broadband. The *Open Internet Notice of Proposed Rulemaking* proposes high-level rules of the road to provide greater clarity regarding network management practices and preserve Internet openness, while protecting broadband providers’ ability to reasonably manage their networks.

- Will you consider the concerns of churches and other wireless microphone users as you continue to deliberate interference protections for wireless microphones?

RESPONSE:

In a pending Further Notice of Proposed Rulemaking the Commission is considering how to revise rules concerning the use of wireless microphones. The Commission will review all of the information in the record in deciding how to

best address the concerns of the many wireless microphones users, including houses of worship, schools, libraries, museums, theaters, and concert halls. In many of the bands in which these wireless microphones operate, there also are other important uses of the bands, and wireless microphone users are required to share spectrum with such users, including television broadcasters and unlicensed TV band white spaces devices. The Commission must carefully balance the important interests among all of these users before it adopts final rules for wireless microphones.

- Will you consider the language in H.R. 4353, which provides for geolocation database protections for 13 specific classes of professional wireless microphone users, including Houses of Worship, arenas, theaters, restaurants, stadiums, and museums?

RESPONSE:

The Commission recently adopted a Second Memorandum Opinion and Order that revised the rules unlicensed devices operating in the TV White Spaces. The rules included several provisions to minimize the risk of harmful interference wireless microphones. Two TV channels will be reserved in every market that can be used by wireless microphones and are available for used by TV White Space devices. These two channels can accommodate at least 12 to 16 wireless microphones at any given location, which should be sufficient for most uses. In addition, many other TV channels will not be available for TV White Space devices at any given location. These channels will be identified in a publicly accessible data base and can be used for additional wireless microphones without concern of interference from TV White Space devices.

The Commission also recognized that certain venues and events, such as the kinds you describe, use many wireless microphones and cannot be accommodated in the reserve channels and other channels that are not being used by TV White Space devices. The Commission established a process where these venues and events can be included in the data base of locations and channels where TV White Space devices may not operate. The TV White Space fixed transmitters and portable transmitters must be located at least 1000 meters and 400 meters away from these sites.

We believe that these measures strike an appropriate balance in accommodating existing users of wireless microphones while creating opportunities for innovation

and investment in new devices and services and making more efficient use of the TV spectrum.

The National Broadband plan recommends that “States should reduce impediments and financial disincentives to using commercial service providers for Smart Grid communications.”

- What **more** can be done to ensure/motivate utilities to leverage commercial technologies for their Smart Grid applications?

RESPONSE:

A beginning point towards the goal of encouraging utilities to leverage commercial technologies for Smart Grid applications is to ensure a thorough understanding of the evolving communications requirements of electric utilities. As an input to the NBP plan, the FCC solicited public comment on Smart Grid technologies, and a number of utilities filed detailed responses. Many utilities declined to comment, however, and others understandably declined to reveal confidential or sensitive information in public filings. Thus, the NBP recommends that DOE, in collaboration with the FCC, conduct a thorough study of the communications requirements of electric utilities, including, but not limited to, the requirements of the Smart Grid. Building upon the FCC’s research and development in the NBP proceeding, DOE should collect data about utilities’ current and projected communications requirements, as well as the types of networks and communications services they use. Such an analysis will bring to light barriers to utilities’ adoption or deployment of commercial technologies for their Smart Grid applications. The DOE has already begun to implement this recommendation, by issuing a RFI on utility Smart Grid communications.

- What activities are specifically recommended for removing financial disincentives and who is undertaking them?

RESPONSE:

The NBP recommends that state public utility commissions (PUCs) review regulatory requirements applicable to electric utilities to ensure that utilities’ financial interests do not lead them to reject the use of commercial networks, thereby making suboptimal communications and technology decisions. Specifically, as rate-of return regulated utilities, large utilities typically earn guaranteed profits on the assets they deploy—including private communications

networks—but only receive cost recovery if they use commercial networks. The NBP recommends that state regulators carefully evaluate a utility’s network requirements and commercial network alternatives before authorizing a rate of return on private communications systems. Consistent with the Energy Independence and Security Act of 2007 (EISA), the plan recommends that PUCs also consider letting recurring network operating costs qualify for a rate of return similar to capitalized utility-built networks. California is currently considering this question.

Moreover, in many states, electric utility incentives are still oriented toward deploying assets and selling more power, not selling less or cleaner power. While this structural problem is outside the scope of the National Broadband Plan, despite its explicit Congressional mandate to address energy efficiency, a national strategy to support the growth of the Smart Grid must recognize that many large electric utilities have inherent financial incentives to deploy regulator-approved communications systems but have mixed-to-poor incentives to use these systems to deliver energy more efficiently.

- Why should utilities be allocated or re-allocated spectrum (as they have requested) if there is existing infrastructure via commercial technologies that will be utilized for other critical applications like public safety?

RESPONSE:

Utilities will need greater communications across the grid, and many are increasingly using wireless technologies, which are often more cost-effective than wired facilities in reaching wide areas or distributed assets. These wireless networks include licensed commercial networks, licensed private networks, and private networks operating at power levels where FCC licenses are not required.

Developing a Smart Grid is national policy set forth by EISA 2007, and the NBP recommends that the federal government continue to explore the issue of providing spectrum, recommending that “NTIA and the FCC should specifically explore possibilities for coordination of Smart Grid use in appropriate federal bands. Any new broadband network built in the identified spectrum should be required to meet standards of interoperability, customer data accessibility, privacy and security. Use of this spectrum should not be mandated, so that legacy systems are not stranded and that commercial, other shared networks and unlicensed wireless networks can be used where appropriate.”

Dedicating spectrum for the Smart Grid could have advantages and disadvantages. Potential advantages include: 1) providing another mechanism for the federal government to drive national interoperability standards and best practices of cyber-security, privacy, and consumer data access; 2) vendor standardization and competition, which could lead to lower equipment prices or more functionality; and 3) a possible acceleration of smart grid deployments. Risks/disadvantages to dedicating spectrum include: 1) possible sub-optimal use of spectrum; 2) fewer applications and users on commercial networks to drive down the cost for all users; 3) the opportunity cost to the U.S. Treasury of not auctioning off the spectrum to commercial broadband users; and 4) a near-term effect of “freezing the market” while companies re-evaluated their Smart Grid technology road maps.

It should be noted that the NBP has a number of general spectrum recommendations that will also benefit the Smart Grid. Increasing spectrum transparency, promoting incentives to improve the secondary market, and providing more opportunities for unlicensed uses – all of these have the potential to be beneficial to Smart Grid networks, including both commercial and private networks. Recent FCC rulings to unlock spectrum – such as the clarification of WCS rules – can also benefit the Smart Grid. Specifically, WCS licensees can now satisfy their build-out requirements by serving utility customers in fixed applications; i.e. Smart Grid applications.

- Will this encourage the build out of duplicative networks that stick the American energy consumers with the bill?

RESPONSE:

A variety of possible models could be employed to provide spectrum to the industry and avoid the possible build out of duplicative networks that impose further energy costs on American consumers. For example, utilities could share spectrum with federal users or with public safety networks (also recommended in the NBP). Other models might result in a private network for electric utilities, by dedicating spectrum to utilities with specific build-out requirements or auctioning spectrum for critical infrastructure uses (which includes the Smart Grid, but could also include natural gas and water management, among others), thereby supporting applications with a high level of reliability, such as those for grid control and protection. The costs and benefits to American consumers – in financial, public safety, and homeland security terms – must be weighed, whatever the model.

Ultimately state regulators and utilities will need to choose the networking strategy that is the most appropriate and cost-effective for their ratepayers.

The National Broadband plan recommends “The Federal Communications Commission (FCC) should start a proceeding to explore the reliability and resiliency of commercial broadband communications networks.”

- Will these reliability standards be applied to the private technologies that Utilities are currently deploying and considering for their CIP Smart Grid Applications?

RESPONSE:

There are over 3,000 utilities in the U.S. that serve customers across very different topologies and regulatory regimes. There is not a single solution or a “representative” network for the Smart Grid. Many utilities use a mix of commercial and private networks in the Smart Grid and will continue to do so.

Although, electric utilities traditionally prefer to build and maintain private networks for mission critical communications, some utilities do use commercial networks for mission critical communications today. Commercial networks can be made secure and resilient, as demonstrated by their use in the federal government (DoD, DHS, etc.). For some smaller utilities, the lack of internal networking expertise and personnel might have driven the decision to use commercial facilities.

The NBP recommends that the FCC start a proceeding to explore the reliability and resiliency of commercial broadband networks (Rec. 12.1). As noted in the NBP, commercial broadband networks, and wireless broadband networks in particular, can serve more mission-critical and wide-area utility communications needs as service providers adopt measures to improve the reliability and resiliency of these networks during emergency scenarios. Because 97.8% of Americans are already covered by at least one 3G network, a hardened commercial wireless data network could serve as a core part of the Smart Grid. The benefits of a more reliable commercial broadband network are much broader than enabling the Smart Grid alone. A more reliable network would also benefit homeland security, public safety, businesses and consumers, who are increasingly dependent on their broadband communications, including their mobile phones. Today, more than 22% of households in America do not subscribe to fixed-line telephone service.

The North American Electric Reliability Corporation, an organization under the U.S. Federal Energy Regulatory Commission's (FERC) authority, has been responsible since 1968 for the reliability of the bulk power system. NERC develops and enforces reliability standards. As of June 18, 2007, FERC granted NERC the legal authority to enforce reliability standards with all users, owners, and operators of the bulk power system in the United States, and made compliance with those standards mandatory and enforceable.

- Does having a double –standard for reliability and resiliency testing indirectly support the adoption of “sub-optimal choices” (see section 12.2 page 270) that are being made due to financial incentives (guaranteed profits/rate of return for proprietary buildouts of duplicative network technology)?

RESPONSE:

Reliability and resiliency standards should be consistently applied, regardless of the nature of the network – private or commercial. Thus, for example, the NBP recommends that the North American Electric Reliability Corporation (NERC), the organization under FERC's authority responsible for the reliability of the bulk power system, should revise its security requirements to provide utilities more explicit guidance about the use of commercial and other shared networks for critical communications. In future versions of the Critical Infrastructure protection (CIP) standard, NERC should clarify whether such networks are suitable for grid control communications. NERC should also clarify how its CIP requirements will coexist with the cybersecurity standards of the National Institute of Standards and Technology (NIST). The perceived ambiguity on CIP requirements appears to be slowing utility decision-making and stifling the deployment of some Smart Grid applications on commercial networks.

- What is the FCC doing to ensure that ALL technologies being considered for Critical infrastructure meet the same high standards for reliability and resiliency?

RESPONSE:

The FCC will work closely with FERC, DOE and other applicable organizations to ensure that all technologies being considered for critical infrastructure meet the same high standards for reliability and resiliency, thereby removing incentives –

financial or regulatory – to the deployment or use of suboptimal technologies or networks.