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MCDERMOTT, WILL & EMERY

March 6, 2002

VIA HAND DELIVERY

Mr. William F. Caton
Office of the Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

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**Re: Ex Parte Presentation; In the Matter of Implementation of
Sections 309(j) and 337 of the Communications Act of 1934;
WT Docket No. 99-87**

Dear Mr. Caton:

This is to notify you, pursuant to Section 1.1206 of the Federal Communications Commission's ("Commission's") Rules, that Entergy Services, Inc., ("Entergy") submitted a written presentation to the Commission on an issue that is under consideration in the above-referenced proceeding. On March 6, 2002, Entergy submitted comments to the Commission concerning the National Telecommunications and Information Administration's ("NTIA's") Report to Congress on the current and future spectrum requirements of providers of energy, water and railroad services. (DA 02-361). In the comments, Entergy discussed why the Commission should reconsider its decision that spectrum allocated to utilities can be auctioned. Specifically in Section IV(C), Entergy stated that the United States Court of Appeals for the D.C. Circuit, in *National Public Radio v. Federal Communications Commission*, has provided guidance on how the Commission is to effectuate the auction exemption language of Section 309(j)(2).

In that case, National Public Radio challenged a decision by the Commission to exempt noncommercial educational broadcast stations from auctions only if the noncommercial educational broadcast stations were licensed in bands that were specifically reserved for noncommercial educational broadcasting. The Court disagreed, and held that the Commission is precluded from requiring any

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noncommercial educational broadcasters from participating in auctions to obtain a license based on the plain language of Section 309(j)(2). Section 309(j)(2) exempts certain license applicants from having to acquire their licenses through competitive bidding “based on the nature of the station that ultimately receives the license, not on the part of the spectrum in which the station operates.”

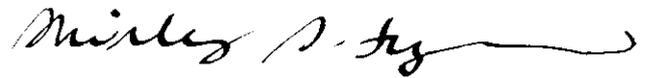
In the case of the public safety radio services exemption, the Commission has concluded that the exemption applies only to frequency bands if the “dominant” use of the band is by public safety radio services. Through the adoption of the “dominant” use test -- support for which cannot be found in either the statute or the legislative history -- the Commission has based the availability of the public safety radio services exemption on the character of the frequency band instead of looking at the nature of the station that receives the license.¹ The public safety service exemption applies to private internal radio stations that are used to protect the safety of life, health, or property, and are not made commercially available to the public. Therefore, in applying the “public safety radio services” exemption, the Commission should not focus on the band, but rather on the how the station is used in determining the scope of the auction exemption.

¹ Although Section 309(j)(2)(C) defines the exempt noncommercial educational broadcast applications by reference to “stations,” and Section 309(j)(2)(A) describes the exempt public safety applications by reference to “services,” the result is the same: to exempt certain applicants from having to compete in auction for particular uses of the spectrum. The Commission has interpreted the term, “public safety radio services,” to refer to designated frequency bands where the “dominant” use is for public safety. However, the word “service” is used in similar contexts in the Communications Act to refer to the actual service provided via the facilities; not to a particular frequency band or administrative classification used by the Commission when allocating spectrum. (e.g., “Mobile Service” means a “radio communication service carried on between mobile stations or receivers and land stations.” 47 U.S.C. Sec. 3(27). Also, “commercial mobile service” means “any mobile service (as defined in section 3) that is provided for profit...” 47 U.S.C. Sec. 332(d)(1)). Nothing in Section 309(j)(2) or in its legislative history indicates that Congress intended to redefine the term “radio service” to mean “frequency allocation.”

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The decision that the Commission has authority to auction spectrum allocated to utilities is currently under reconsideration (WT Docket No. 99-87). Therefore, in accordance with Section 1.1206 of the Commission's rules, two copies of the ex-parte written presentation are hereby provided for your office.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Shirley S. Fujimoto", with a long horizontal flourish extending to the right.

Shirley S. Fujimoto

cc: John Borkowski
Karen Franklin

ORIGINAL

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C. 20554

In the Matter of)
)
Request For Comment On NTIA)
Report On Current And Future)
Spectrum Use By The Energy,) **DA 02-361**
Water, And Railroad Service)
Industries)
)
NTIA Docket No. 010327080-1080-01)

COMMENTS OF ENTERGY SERVICES, INC.

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Dated: March 6, 2002

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EXECUTIVE SUMMARY

The transmission and distribution systems used by Entergy to deliver electricity to its customers are vital components of the Nation's critical infrastructure. A disruption in the generation and/or transmission of electricity, if not quickly restored, poses a threat to the public safety and the Nation's economic security. The lives of virtually everyone within a utility's service territory are affected by its operations. Therefore, it is necessary to take measures to ensure that utilities are able to safely and efficiently conduct their operations.

The NTIA Report found that the ability of utilities to deliver essential public services is dependent on the continued use of spectrum. Specifically, utilities rely on spectrum-dependent equipment in order to make emergency repairs, comply with state and federal safety and operating requirements, and conduct their daily activities. The importance of a utility's private internal communications system cannot be overstated. A utility's private internal communications system is a lifeline to employees in the field who are making emergency repairs, and is critical to Entergy's ability to respond to, and correct disruptions in service rapidly and effectively.

Even when conducting their daily activities, utilities use spectrum-dependent equipment to construct, operate, and maintain their infrastructure. By using their land mobile radios when inspecting the infrastructure, workers can quickly report problems that require an immediate response. Entergy's supervisory control and data acquisition system permits it to monitor its production and distribution networks for potential problems on a real-time basis. In addition, any problems that are discovered can often be fixed remotely.

Utilities also rely on their private internal communications system in order to meet service standards, which ensure the safety and reliability of electric service.

Therefore, the Federal Communications Commission (“Commission”) must take action to ensure that utilities can depend on their private internal communications systems. To accomplish this goal, the Commission should allocate additional spectrum for utilities. The bands currently used by utilities are congested and there is a limited amount of clear spectrum available for the utilities’ private internal communications systems.

In addition, the Commission should not take any action, such as band reallocations or “realignments,” that would reduce or disrupt the spectrum available to utilities. Currently there are two proposals, one by Nextel to realign the 800 MHz band and one by the Personal Communications Industry Association to consolidate the 800 and 900 MHz Business and Industrial/Land Transportation channels, that, if adopted, could compromise the continued viability of the utilities’ existing private internal communications systems.

Finally, the Commission should reconsider whether spectrum that is relied upon by utilities can be auctioned. Previously, the Commission decided that it has the authority to auction spectrum used by utilities in the 470-512, 800 and 900 MHz bands despite Congress’s clear intention to exempt utilities from auctions. In particular, the decision by the United States Court of Appeals for the D.C. Circuit, in *National Public Radio v. Federal Communications Commission*, indicates that the Commission must give effect to Congress’s clearly-expressed intent to exempt certain license applications from competitive bidding regardless of frequency band. Therefore, the Commission should confirm that it will not auction licenses that are used by utilities to protect the safety of life,

health, or property and are not made commercially available to the public, regardless of the “dominant use” of the band.

The Commission must protect the spectrum needs of utilities because alternatives to utilities’ private internal communications systems are generally not appropriate. Utilities need guaranteed communications throughout their entire service area, twenty-four hours a day, seven days a week. Entergy has found that the alternatives specifically available to it often do not meet this high standard. Commercial wireless service providers often do not provide service throughout the utility’s entire operating area. In addition, they may not build a level of redundancy and reliability into their wireless systems to insure service availability at all times, particularly during storms or other emergency situations when utilities have the greatest need to communicate.

The wireline telephone network is also not an adequate alternative because utilities need a communications system that is mobile. Mobile communications allow crew members to communicate while still at the site. This reduces the repair time because the crew member can ask or answer questions about the extent or type of damage while at the site and viewing the damage. In addition, a storm or other natural disaster that knocks down the electrical lines will usually also damage the telephone lines. The ability to communicate could be compromised when it is needed most.

A third alternative, fiber optic cables, like the wireline telephone network, are also not mobile and can be easily cut. In addition, fiber optic cables may not be a cost-effective solution because a utility needs to acquire the right-of-way through the land and then lay the fiber, which can be particularly difficult if the terrain is uninhabited or the fiber needs

to traverse a waterway or ravine. Also, fiber can be difficult and inefficient to use for relatively low bandwidth applications.

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Water, And Railroad Service)
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NTIA Docket No. 010327080-1080-01)

COMMENTS OF ENTERGY SERVICES, INC.

Entergy Services, Inc., by and through its undersigned telecommunications counsel, hereby files these comments in the above referenced proceeding.¹ In this proceeding, the Federal Communications Commission (hereinafter “Commission” or “FCC”) issued a Public Notice requesting comments on the issues addressed in the National Telecommunications and Information Administration’s (“NTIA’s”) report entitled “Current and Future Spectrum Use by the Energy, Water, and Railroad Industries” (“NTIA Report”).²

Entergy Services, Inc. strongly supports the findings of the NTIA Report. Specifically, Entergy Services, Inc. agrees that: (1) utilities provide a public service and are vital components

¹ *Public Notice*, Wireless Telecommunications Bureau Seeks Comment on NTIA Report on Current and Future Spectrum Use by the Energy, Water, and Railroad Service Industries, DA 02-361 (February 14, 2002).

² Marshall W. Ross and Jeng F. Mao, Current and Future Spectrum Use by the Energy, Water, and Railroad Industries, Response to Title II of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 2001 Public Law 106-553, U.S. Department of Commerce, National Telecommunications and Information Administration (Jan. 30, 2002) (“*NTIA Report*”).

of the Nation’s critical infrastructure; (2) continued use of spectrum is essential to the current and future operations of utilities; and (3) alternatives to a utility’s own private internal communications system are often not adequate. In addition, the NTIA Report concluded that the significance of energy, water, and railroad service providers and the urgency of spectrum issues “may have changed as a result of the September 11th events. Therefore, it is of utmost importance that the Federal Communications Commission revisit these critical issues in order to accommodate the increasing role these industries play in maintaining quality of life.”³

When the Commission examines the spectrum needs of utilities, it should focus on the fact that utilities’ private internal communications systems are directly related to their ability to generate and transmit electricity. Therefore, the Commission should take action that will protect the spectrum needs of utilities. To accomplish this goal, the Commission should allocate additional spectrum for utilities because the land mobile bands that are currently allocated to utilities are congested. The Commission should also preserve the land mobile bands that are currently allocated for utilities and avoid actions, such as reallocations or band “realignments,” that would reduce or disrupt the spectrum used by utilities. In addition, the Commission should not auction spectrum licenses that are used by utilities.

I. BACKGROUND

Entergy Corporation is one of the largest electric public utility holding companies in the country. Entergy Corporation’s subsidiaries include five electric utility operating companies (or “OPCOs”) – Entergy Gulf States, Inc., Entergy Arkansas, Inc., Entergy Louisiana, Inc., Entergy Mississippi, Inc. and Entergy New Orleans, Inc. Entergy Services, Inc. (“ESI”), another

³ *NTIA Report* at xxii.

subsidiary of Entergy Corporation, provides administrative and support services to Entergy Corporation and the OPCOs, among others (collectively “Entergy”). Together, the OPCOs own and operate an integrated electric utility system under the Entergy Corporation umbrella that serves over 2.6 million customers. The Entergy service territory includes most of Louisiana and Arkansas, portions of Texas and Mississippi and covers approximately 133,000 square miles.

To facilitate its internal communications and monitoring of its power generation and distribution system, Entergy operates extensive private land mobile and microwave communications systems. Entergy has frequencies licensed for land mobile use in the 150-174 MHz, 450-470 MHz, and 800 MHz bands. These mobile communications systems support Entergy’s utility operations. Additionally, Entergy uses spectrum licensed in the 900 MHz Multiple Address System Service to conduct critical supervisory control and data acquisition (“SCADA”) operations. Entergy also has hundreds of private operational fixed microwave licenses in the 2 and 6 GHz band.

As Congress recognized in directing the study that gives rise to this proceeding, Entergy and other power utilities provide the core resources that permit modern society to function. Entergy provides electricity to millions of customers in households, schools, hospitals and businesses throughout its extensive service territory. The lives of virtually everyone within Entergy’s service territory are affected by its utility operations. Without electricity, other industrial and business operations simply cannot be performed. For the population as a whole, utilities have a responsibility for providing electricity to hospitals and other critical facilities throughout their service territories. Simultaneously, utilities must also ensure the safety of their crews working on their infrastructure and deliver the electricity safely and efficiently to their

customers. A misstep can be extremely dangerous and deprive large areas and populations of electricity.

II. INTRODUCTION

NTIA was required by the 2001 Department of Commerce Appropriations Act to report to Congress on the current and future use of spectrum by energy, water, and railroad service providers to protect and maintain the Nation's critical infrastructure.⁴ To accomplish this task, NTIA requested comments from the energy, water, and railroad industries, representative trade organizations, and federal agencies with regulatory oversight of these industries. In addition, NTIA solicited advice from the Commission, the Interdepartment Radio Advisory Committee, and the Public Safety Wireless Network. NTIA also reviewed public articles, reports and studies that discussed the use of spectrum by energy, water, and railroad service providers.⁵

The Appropriations Act also requires the Commission to submit to Congress a report on the actions that the Commission could take to address any needs identified in the NTIA Report. This proceeding, therefore, gives the Commission an excellent opportunity to establish a comprehensive plan by which it can accommodate the utilities' spectrum needs. By establishing such a plan, the Commission will be significantly contributing to Homeland Security and protection of the utilities' critical infrastructure. Previously, the Commission created an advisory committee to investigate the operational, technical, and spectrum requirements of traditional public safety services.⁶ Now the Commission has a similar opportunity to document the critical

⁴ See Federal Funding, Fiscal Year 2001, Pub. L. No. 106-553, 114 Stat. 2762, 2762A-73 (2000).

⁵ *NTIA Report* at 1-2 to 1-4.

⁶ *News Release, Public Safety Wireless Advisory Committee Approves Final Report*, 1996 FCC Lexis 5246, (September 20, 1996).

communications requirements of public service utilities and why utilities need to rely on spectrum-dependent equipment.

III. ENERGY STRONGLY SUPPORTS THE FINDINGS OF THE NTIA REPORT

The NTIA Report found that: (1) utilities provide a public service and are vital components of the Nation's critical infrastructure; (2) continued use of spectrum is essential to the current and future operations of utilities; and (3) alternatives to a utility's own private internal communications system are often not adequate. Entergy strongly supports these findings and believes that the NTIA Report accurately describes how the public benefits from utilities using spectrum for their private internal communications systems.

A. Utilities Provide Essential Public Services and are Vital Components of the Nation's Critical Infrastructure

The Report recognized that utilities provide essential public services and are vital components of the Nation's critical infrastructure. Any "system disruptions that are not quickly restored pose potential threats not only to public safety, but also to the Nation's economic security."⁷ By way of example, the Report cautioned that a disruption in a power generating station's control computer could be "just as devastating" to the Nation's economy as the September 11, 2001, terrorist attacks on the World Trade Center.⁸ Furthermore, the President's Commission on Critical Infrastructure Protection was established because certain critical infrastructures, such as electrical power systems, are "so vital that their incapacity or destruction

⁷ *NTIA Report* at 3-3.

⁸ *Id.*

would have a debilitating impact.”⁹ Our Nation’s “economic prosperity, and quality of life have long depended on the essential services” that utilities provide.¹⁰

This is particularly important in light of recent events. In Afghanistan, the United States discovered that terrorists had diagrams of American nuclear power plants and public water facilities.¹¹ Although no specific plans to attack a utility were discovered, the fact that terrorists had these plans clearly indicates that utilities are an inviting target. If the unthinkable occurred, large segments of the population could be put at risk and the economy could be devastated.¹²

The lives of virtually everyone within a utility’s service territory are affected by its operations. Without electricity, other industrial and business operations simply cannot be performed. For the population as a whole, utilities have responsibility for providing electricity to critical facilities throughout their service territories. Therefore, it is necessary to take measures to ensure that utilities are able to continue their operations.

⁹ Exec. Order No. 13010, 61 Fed. Reg. 37347 (July 17, 1996).

¹⁰ President’s Commission on Critical Infrastructure Protections, *Critical Foundations - Protecting America’s Infrastructures* at ix (October 1997).

¹¹ David Johnston and James Risen, *Seized Afghan Files Show Intent, Not Plans*, N.Y. Times, Feb. 1, 2002 at A13.

¹² A recent column in the Washington Times by Robert Charles, counsel and staff director to the U.S. House National Security Subcommittee from 1995 to 1999, discussed the likelihood of utilities being “the next primary terrorist target” and the potential effects of terrorist attacks on utilities. Robert Charles, *Priority Required for Protecting Utilities*, Washington Times, Mar. 4, 2002 at A17.

B. Continued Use of Spectrum is Essential to the Current and Future Operations of Electric Utilities

The NTIA Report also found that the “continued use of spectrum is essential to the current and future operations” of utilities.¹³ By using spectrum, utilities are able to: (1) make emergency repairs; (2) comply with existing state and federal service requirements; and (3) efficiently and safely conduct their daily activities. In addition, NTIA stated that the federal agencies that regulate the utilities agree that “spectrum usage is an important part of these industries’ core operations, ranging from routine maintenance to emergency response.”¹⁴

1. Utilities Use Their Private Internal Communications Systems in Emergency Situations

In investigating the operations of electric utilities, NTIA found that utilities use their communications systems to “safely restore power.”¹⁵ Through its own experiences, Entergy has found that the importance of its private internal communications system cannot be overstated. Whenever a power outage occurs, a utility must quickly send repair crews to investigate what has occurred, stabilize the situation, and fix any damage. The repair crews arrive at the scene often unaware of the exact cause or the extent of damage. In order to repair the system, a utility must be able to communicate instantaneously with its repair crews to evaluate the situation and to determine the best way to fix the problem.

Repairs in these situations can be a complex, dynamic process and it is critical that the electric system dispatcher and workers at the scene remain in constant contact. Unlike wireline

¹³ *NTIA Report* at xvii.

¹⁴ *Id.* at 7-3.

communications, wireless land mobile operations are not tied to a specific location and allow real-time exchanges of information in a variety of settings under a variety of conditions. This versatility is unmatched by any other technology. Accordingly, Entergy's private internal communications system is a lifeline to employees in the field who are making emergency repairs, and is critical to Entergy's ability to respond to and correct disruptions in service rapidly and effectively.

The NTIA Report also found that when responding to an emergency, utilities require reliable real-time voice communications with public safety personnel in order to coordinate their activities.¹⁶ This is particularly important because it can be necessary for a utility to act before other public safety personnel can respond. For example, if a house is burning, the fire department needs the utility to shut off the electricity. Otherwise, the live electrical wires pose a dangerous risk to the firefighters because the water they are using to fight the fire conducts electricity.

2. The Utilities' Private Internal Communications Systems are Needed in Order for Utilities to Comply with Existing State and Federal Requirements

NTIA also found that private internal communications systems "enable energy producers, suppliers, and distributors to comply with existing state and federal safety and environmental requirements that in many instances have specific system restoration and emergency notification time requirements."¹⁷ Entergy is required to meet certain service standards to ensure the safety

¹⁵ *Id.* at 3-8.

¹⁶ *Id.*

¹⁷ *NTIA Report* at 3-3.

and reliability of electric service.¹⁸ In addition, Entergy submits annual reports, which measure their service performance.¹⁹

In addition to state laws, interconnected electric utilities generally conduct their operations in conformity with standards adopted by the North American Electric Reliability Council (“NERC”), a voluntary industry organization that sets operating and planning standards designed to ensure the integrity of bulk power supply transmission grids.²⁰ The importance of communications to the interconnected power grid is nowhere more evident than in the emphasis placed by the NERC Operating Manual on each participating utility ensuring that “adequate and reliable” telecommunication facilities are in place, internally and with other utilities, to ensure the exchange of information needed to maintain reliability of the transmission grid. NERC’s standards also call for telecommunications facilities to be redundant and diversely routed whenever possible.

3. Utilities Use Their Private Internal Communications Systems on a Daily Basis

The Report also concluded that electric utilities use their private internal communications systems on a daily basis.²¹ Entergy agrees that utilities need their private internal communications systems to conduct their day-to-day activities and to serve the public. In

¹⁸ See e.g., 16 Tex. Admin. Code § 25.52; 126 03 CARR 003, § 8.01 et seq. (Ark. Weil 2001); CMSR 26-000-002, R.4 (Miss. Weil 2001); *Re Ensuring Reliable Electric Service*, Docket No. U-222389 (La. PSC April 30, 1998).

¹⁹ See e.g., 16 Tex. Admin. Code § 25.81; *Re Ensuring Reliable Electric Service*, Docket No. U-222389 (La. PSC April 30, 1998).

²⁰ “Interconnected electric utilities” are electric utilities whose electric transmission networks are physically connected, which enables the transfer of electricity between systems.

²¹ *NTIA Report* at 3-8.

particular, the private internal communications systems are needed to operate, maintain and construct the utilities' infrastructure. Wireless communications are critical because workers need to communicate with each other to coordinate their work. For example, when utilities are pulling electrical lines, workers are often separated because the ends of the electrical line are far apart. It is essential that workers on each end coordinate their efforts to pull the line safely and properly.

The dispatch feature is particularly important to utilities. Group dispatch allows multiple parties to communicate on the same channel simultaneously. For example, when making emergency repairs or conducting maintenance operations, utilities often have to reroute or "switch" the electricity. In order to reroute the electricity safely, five or six different repair crews located miles apart can be working on the same switching operation. All the crews need to be able to communicate with each other to coordinate their efforts because the switching operation must occur in a precise sequence.

Additionally, utilities rely on their land mobile radios when inspecting the utilities' infrastructure. The infrastructure is inspected routinely to ensure that it remains in safe, working condition and does not malfunction after it is built. During such inspections, maintenance workers can discover problems where immediate action is required. Wireless systems enable workers to remain mobile while reporting maintenance issues on a real-time basis, facilitating a quick response. Additionally, wireless data systems can be used to transmit complex or voluminous information back and forth between the field and headquarters, increasing the efficiency of field inspection and maintenance operations. These capabilities help to protect the integrity of the power grid and prevent minor problems from escalating, which could disrupt service.

Also, the NTIA Report found that data communications systems, such as SCADA systems, permit electric utilities to “control and monitor power generation, storage and distribution systems without having to deploy staff where equipment is located.”²² In particular, the NTIA Report found that SCADA systems have become “critical components . . . [because they] help to automate tasks like opening and closing circuit breakers, monitoring system stability, and monitoring alarms for overload conditions.”²³

Entergy agrees with the NTIA Report and believes that its SCADA system is crucial to its ability to monitor its production and distribution networks for potential problems on a real-time basis and to fix some problems without sending out a crew. The use of spectrum-dependent equipment in this fashion permits a much more efficient use of personnel while permitting rapid response to potential problems. This is particularly important with regard to facilities located in remote, hard-to-reach areas.

For example, new substations usually feature computer and microprocessor technologies that enable remote control, interrogation, and troubleshooting. If an outage occurs, personnel can check on the substation from miles away, and analyze the problem prior to sending crews to the site. It is much more efficient for utilities to know what problems exist prior to sending out a repair crew, as utilities can then send the right personnel with the proper tools and parts in order to fix the problem quickly.

In addition, outages often occur during extreme weather conditions, when travel can be extremely difficult. Repair crews may not be able to travel or may have great difficulty getting to facilities located in rural areas. Remote access and control allow utilities to monitor and re-

²² *Id.* at 3-10.

²³ *Id.* at 3-10.

route the flow of electricity. Instead of potentially waiting hours for repair crews to make the difficult drive, electricity can be re-routed within seconds or minutes.

C. The Events of September 11th Illustrate the Need for Utilities to Control Their Own Communications Systems

The NTIA Report stated that after the terrorists attacks, Consolidated Edison (“Con Ed”), the electric, gas and steam utility for lower Manhattan, had to respond quickly to the World Trade Center. In responding to the crisis, Con Ed would not have been able to rely on a commercial wireless service. The commercial wireless providers “were inundated with calls from their customers immediately after the attacks.”²⁴ In Manhattan calls were blocked and failed to get through. One provider, Verizon, stated that close to all of its calls in lower Manhattan were blocked or failed to get through.²⁵ Realizing that their networks were over-subscribed, wireless companies requested that their customers refrain from making calls unless it was truly an emergency.²⁶ Fortunately, Con Ed was able to rely on its own private wireless communications system. Otherwise, Con Ed’s workers would not have been able to communicate effectively in order to address the crisis.

The terrorist attacks in New York and Washington not only affected cellular service in those cities, but “wireless users nationwide got busy signals for much of the day.”²⁷ Utilities

²⁴ *Id.* at 3-16.

²⁵ *Telecom Companies Weather Terrorist Attacks*, Communications Daily, September 12, 2001, at 1.

²⁶ *Id.*

²⁷ Andrew Backover and Paul Davidson, *Callers Overwhelm Phone System*, USA Today, September 12, 2001, at 4B.

cannot depend upon commercial wireless providers for their telecommunications needs unless the commercial provider can guarantee that a utility would have service during an emergency.

IV. THE COMMISSION MUST TAKE ACTION TO ENSURE THAT UTILITIES CAN DEPEND ON THEIR COMMUNICATIONS SYSTEMS

It is important to note that the NTIA Report recognized the utilities' need for spectrum-dependent equipment even without apparent consideration of the events of September 11th. As a result of the events of September 11th, NTIA urged the Commission to look at the spectrum needs of utilities in light of the increasing role that utilities play in maintaining the public's quality of life.²⁸ When the Commission examines the spectrum needs of utilities, it should realize that utilities operate their private internal communications systems in order to serve the public by generating and transmitting electricity. To preserve the utilities' ability to supply essential public services, the Commission should take a number of actions: (1) allocate additional spectrum for utilities because the bands currently used by utilities are congested and there is a limited amount of clear spectrum available for utilities to access; (2) avoid actions, such as band reallocations or "realignments," that would reduce or disrupt the amount of spectrum available to utilities; and (3) reconsider whether the Commission should auction spectrum that is relied upon by utilities.

A. The Commission Should Allocate Additional Spectrum to Utilities

The FCC should allocate additional spectrum to utilities because: (1) there is not enough spectrum available for utility operations; (2) the spectrum that is allocated to utilities is highly congested; and (3) there is a limited amount of clear spectrum available. The utilities' need for

additional spectrum is supported by the Utilities Spectrum Assessment Taskforce's ("USAT's") study on the spectrum requirements of utilities. USAT found that in order to accommodate the spectrum requirements of utilities, additional spectrum must be allocated for their use. Specifically, USAT concluded that utilities need an additional 1.0 MHz of spectrum by 2000, 1.9 MHz by 2004 and 6.3 MHz by 2010.²⁹ The conclusions reached by USAT may actually understate the true spectrum needs of utilities. The Report was released in June of 1998, and since that time, utilities have become more reliant on spectrum-dependent equipment. As a result, USAT's conclusions probably underestimated the actual spectrum needs of utilities.³⁰

In addition, utilities need to be able to license additional frequencies as the population grows and as population centers move away from central cities. As previously stated, utilities use their communications system for emergency use and to monitor day-to-day activities. If utilities cannot use their communications systems in newly developed areas, then it is more likely that there will be power outages in those areas and that repair times will also increase. The critical nature of a utility's operations mandates that sufficient channels be available for them to grow as the population grows and as population centers move.

1. There Is Not Enough Spectrum Available for Utility Operations

Although utilities have access to a variety of different frequency bands, there is currently not enough spectrum for utilities and the other critical infrastructure industries. Furthermore, the

²⁸ *NTIA Report* at xxii.

²⁹ Utilities Spectrum Assessment Taskforce Final Report at 1 (June 30, 1998).

³⁰ The American Water Works Association also believes that the USAT report underestimated the spectrum needs of the utilities "based on industry trends and the current pace of telecommunications technology development and implementation." *NTIA Report* at 4-10.

spectrum that the utilities are able to license is generally highly congested and subject to other conditions that impair its availability and usefulness to utilities. As a result, it is extremely difficult for utilities to license clear spectrum.

2. The Spectrum Currently Allocated to Utilities is Highly Congested

Because the Commission allows many types of users to operate radio systems in spectrum that is also used by utilities, utilities can be subject to harmful interference from these users, *even if both parties are complying with the FCC's regulations*. This is a result of the Commission's decision to consolidate the various pools of land mobile spectrum.

Below 800 MHz, the FCC's regulations require utilities to share spectrum with Business and Industrial/Land Transportation licensees, from whom they receive no specified separation rights or other interference protection. As a result, a new licensee below the 800 MHz band can literally receive a license for operations at the same location and on the same frequency for which a utility has been licensed for years. The impact of the Commission's decision to ease restrictions below 800 MHz has resulted in increases in closely spaced co-channel use as coordinators seek to fit more users into a limited amount of spectrum. This increase in congestion compromises the quality of spectrum use for incumbent users. As a result, utilities compete for spectrum with commercial businesses, many of which do not provide essential public services.

3. There is a Limited Amount of Clear Spectrum Available to Utilities

The amount of clear spectrum that is available to utilities has diminished rapidly over the last five to ten years. In 1995, a utility could select from over 300 channels in the 800 MHz

band. Following a series of freezes and auctions, there are now approximately 100 frequencies available to utilities. Moreover, these channels are being rapidly depleted because eligibility restrictions permit licensees that may have less critical needs to license spectrum that could be used by utilities. Any commercial business is eligible to license Business frequencies provided that the communication is necessary for the operation of a commercial activity.³¹ Utilities compete with turf growers, gardeners, parking garages, delivery trucks, restaurants, and shopping malls for Business frequencies. The eligibility restrictions to license Industrial/Land Transportation frequencies are not very restrictive either. Livestock breeders, concrete manufacturers, taxicabs, buses, lumberjacks and film producers are all eligible to license Industrial/Land Transportation frequencies.

Other spectrum that utilities use for land mobile operations is located in the 48, 150, 450, 800 and 900 MHz bands. Therefore, utilities would benefit most by acquiring additional frequencies in those bands or bands located close to this spectrum. Even if spectrum in the 48, 150, 450, 800 and 900 MHz bands is not allocated to utilities, Entergy requests that the Commission allocate spectrum for utility use in other bands where utility dispatch and SCADA operations could be conducted.³²

³¹ 47 C.F.R. §§ 90.617(c); 90.35.

³² The Commission has allocated 50 MHz of spectrum in the 4.9 GHz band for fixed and mobile wireless services and designated the band for use in support of public safety. The Commission has requested comments on various issues including who should be eligible to use the band and the scope of the public safety designation. *In the Matter of the 4.9 GHz Band transferred from Federal Government Use*, WT Docket No. 00-32, *Second Report and Order and Further Notice of Proposed Rulemaking*, FCC 02-47 (February 27, 2002). Entergy believes that eligibility to license the spectrum should be based on the definition of “public safety radio services,” as defined in Section 309(j)(2) of the Communications Act.

B. The Commission Should Not Take Any Action that Would Impair Utilities' Ability to Acquire Spectrum

The Commission should also refrain from taking any action that could further impair the utilities' ability to license spectrum that is allocated to them. Currently, there are two proposals that, if adopted, would hinder the utilities' ability to license spectrum. Nextel has proposed that the Commission require 800 MHz Business and Industrial/Land Transportation licensees to either accept secondary status to Part 90 Public Safety Radio licensees ("Public Safety Licensees") or relocate to the 700 and 900 MHz bands at their own expense. In addition, the Personal Communications Industry Association has requested that the Commission consolidate the 800 and 900 MHz Business and Industrial/Land Transportation channels into one pool.

1. **Reallocating the 800 MHz Band Could Compromise the Continued Viability of the Utilities' Private Internal Communications Systems**

Nextel requested that the FCC realign the 800 MHz band to help eliminate interference to Public Safety Licensees, which is primarily being caused by Nextel. Nextel's realignment scheme would require 800 MHz Business and Industrial/Land Transportation licensees to either accept secondary status to Public Safety Licensees or relocate to the 700 and 900 MHz bands at their own expense. Successful relocation by 800 MHz Business and Industrial/Land Transportation licensees cannot be guaranteed and would be permitted on a "first-come, first-served" basis. In addition, the 700 MHz band is currently occupied by broadcast licensees, who can continue to operate on these channels until at least 2006, so much of the proposed replacement spectrum may not be available for five years or longer, if at all.

The utilities' current land mobile communications systems in the 800 MHz band would either have to be abandoned or retuned to operate in the 700 or 900 MHz Bands. Utilities would not be compensated for retuning their land mobile communications systems or building a new system. If adopted, Nextel's scheme would compromise the continued viability of utilities' existing land mobile communications systems.

2. The Commission Should Not Consolidate the Business and Industrial Land Transportation Pools

Recently, the Personal Communications Industry Association submitted a Petition for Rulemaking to the Commission and requested that the FCC consolidate the Business and Industrial/Land Transportation pools into one pool. If adopted, this would allow business eligibles to license frequencies that are reserved for Industrial/Land Transportation licensees. As a result, the Industrial/Land Transportation frequencies would likely become even more congested and it would become even more difficult for utilities to acquire additional spectrum because Business licensees would also be vying for Industrial/Land Transportation spectrum.

Because utilities often "respond to emergencies that could be extremely dangerous to the general public," the Commission should take measures to protect the spectrum that utilities license.³³ Previously, the Commission has recognized the need to minimize congestion if the spectrum was being utilized for operations that could affect thousands of lives. When the Commission consolidated the twenty private land mobile radio services into two pools below

³³ See *In the Matter of Implementation of Replacement of Part 90 by Part II to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them and Examination of Exclusivity and Frequency Assignments Policies of the Private Land Mobile Services*, PR Docket No. 92-235, *Second Report and Order*, 12 FCC Rcd 14307, 14329 ¶ 41 (1997) ("Refarming Order").

800 MHz, the Commission decided to establish a separate public safety pool because of the importance of public safety operations to the general public.³⁴ In particular, the Commission recognized that “competing demands for and use of spectrum from entities with a different mission and less critical set of needs . . . could place an unacceptable strain on the integrity of the public safety spectrum use.”³⁵ Therefore, the Commission decided to create a separate pool for Public Safety Licensees.

The same concerns are now present with respect to utilities. Utilities respond to emergencies that can affect thousands of people. After a hurricane, snowstorm, or other natural disaster, an entire town or region can be left without power for a month or more.³⁶ It is imperative the utilities begin to repair the damage so that the public can continue with their daily lives as soon as possible. Many businesses cannot operate until the electricity is restored. Food supplies, hospitals, communications networks - - all rely on the uninterrupted delivery of power. “Virtually all infrastructures are negatively affected by extended power disruptions.”³⁷ The Commission has acknowledged that maintaining the integrity of spectrum used by utilities is “extremely important.”³⁸ The provision of electricity is essential to the Nation’s economic health and social well being.³⁹ Therefore, the Commission should not consolidate the Business and

³⁴ *Id.* at 14316 ¶ 16.

³⁵ *Id.* at 14316 ¶ 16.

³⁶ In January of 1998, an ice storm ravaged the Northeastern United States and Canada, leaving over half-million people without electric power for more than a week. A. Jay Higgins, *Symbols to Take State by Storm*, Bangor Daily News, January 31, 1998.

³⁷ James Peerenboom, Ronald Fisher, Steven Rinaldi, and Terrence Kelly, *Studying the Chain Reaction*, Electrical Perspectives, January/February 2002.

³⁸ *Refarming Order* at 14329 ¶ 41.

³⁹ President’s Commission on Critical Infrastructure Protections, *Critical Foundations - Protecting America’s Infrastructures* at vii (October 1997).

Industrial/Land Transportation pools above 800 MHz. By pooling the Business and Industrial/Land Transportation spectrum, utilities' ability to license critical radio systems would be further diminished.

C. The Commission Should Reconsider Whether it has the Authority to Auction Spectrum Allocated to Utilities

In implementing its auction authority under the Balanced Budget Act, the Commission has determined that it has authority to auction Business and Industrial/Land Transportation spectrum in the 470-512, 800 and 900 MHz bands despite Congress's clear intention to exempt public safety radio services, which includes utilities, from auctions. This decision, which Entergy has asked the Commission to reconsider, casts significant uncertainty on the regulatory framework governing frequencies in these bands.

1. Congress Intended To Ensure Utilities Could Access Spectrum without Competing at Auction

The 1997 Balanced Budget Act amended Section 309(j) of the Communications Act to require the Commission to award mutually exclusive applications for initial licenses or permits using competitive bidding procedures, except with regard to three discrete exemptions, one of which is pertinent to this discussion.⁴⁰ Specifically, the Balanced Budget Act amended Section 309(j)(2) of the Communication Act to read, in relevant part:

(2) EXEMPTIONS—The competitive bidding authority granted by this subsection shall not apply to licenses or construction permits issued by the Commission—

⁴⁰ Balanced Budget Act, § 3001 *et seq.*, Pub. L. No. 105-33, Title III, 111 Stat. 251, 258 (1997).

(A) for public safety radio services, *including private internal radio services used by State and local governments and non-government entities* and including emergency road services provided by not-for-profit organizations, that—

- (i) are used to protect the safety of life, health, or property;
- and
- (ii) are not made commercially available to the public;

(B) for initial licenses or construction permits for digital television given to existing terrestrial broadcast licensees to replace their analog television services licenses; or

(C) for stations described in section 397(6) of this title.⁴¹

Congress’s specific mandate is obvious from both the plain language of the statute and the legislative history. The plain language of section 309(j)(2)(A) dictates that competitive bidding shall not be used to award licenses “for public safety radio services, including private internal radio services used by non-government entities and others to protect the safety of life, health or property.” The legislative history is also quite clear. The House Conference Report stated that “the exemption from competitive bidding authority for ‘public safety radio services’ includes ‘private internal radio services’ used by *utilities*, railroads, metropolitan transit systems, pipelines, private ambulances, and volunteer fire departments.”⁴² Although the Commission agreed that Congress intended to exempt from competitive bidding services designated for non-commercial use by utilities, the Commission nevertheless invented a second hurdle that must be

⁴¹ 47 U.S.C. § 309(j)(2) (emphasis added).

⁴² House Conf. Rep. No. 105-217, 105th Cong., 1st Sess., at 572 (1997) reprinted in 1997 U.S.C.C.A.N. 176, 192.

cleared for public safety radio services to be exempt from competitive bidding.⁴³ Specifically, the Commission determined that the exemption applies only if the “dominant use” of the frequency band is by public safety radio services.⁴⁴ The dominant use test effectively nullifies the Congressional intent in exempting utilities from auction.

The Commission then determined that the 470-512, 800 and 900 MHz bands, which are used extensively by utilities for land mobile communications systems, all failed the dominant use test and could be auctioned by the Commission. Although the Commission stated that it would not auction the 470-512, 800 and 900 MHz bands at this time, there is nothing to prevent the Commission from changing its policy.

If the Commission decided to auction the 470-512, 800 and 900 MHz bands, the utilities’ rights to utilize spectrum in these bands could be severely impaired. Even if the Commission protects incumbent licensees, and auctions the spectrum surrounding the incumbent licensees (commonly called an “overlay auction”), the utilities’ ability to utilize their communications systems effectively could be severely hindered, which could affect their ability to monitor their day-to-day activities and make emergency repairs in a timely manner. As a result, utilities face significant uncertainty with regard to the most fundamental aspect of their critical wireless operations.

⁴³ *In the Matter of Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, Promotion of Spectrum Efficient Technologies on Certain Part 90 Frequencies, Establishment of Public Service Radio Pool in the Private Mobile Frequencies Below 800 MHz, Petition for Rule Making of the American Mobile Telecommunications Association*, WT Docket No. 99-87, RM-9332, RM 9405, RM-9705, *Report and Order and Further Notice of Proposed Rulemaking*, 22709, 22740-41 ¶¶ 64-65 (2000) (“*BBA Report and Order*”).

⁴⁴ *Id.* at 22740 ¶¶ 64.

2. Geographic Area Overlay Auctions Will Cripple Utility Use Of Spectrum In Auctioned Bands

The Commission's practice has been to auction spectrum on a geographic area basis. While this makes sense in a commercial context, where the commercial carrier offers services to users located throughout a market, it is not well suited to meet the communication needs of utilities. Specifically, utilities establish coverage to correlate with their utility service territory or infrastructure, which may have little relationship to general economic markets. The methodology historically employed in the 800 MHz bands, site-by-site licensing, is well suited to utility-style use. Geographic area licensing, on the other hand, would commonly offer utilities too much or too little with respect to their actual need for spectrum. As a result, it is typically highly inefficient to require utilities to secure spectrum through auctions, which presents utilities with a choice between seeking to purchase more spectrum than they need or accepting the uncertainty associated with incumbency in an auction band.

In typical overlay auctions, land mobile incumbent licensees are allowed to continue to operate within their existing interference contour. At the same time, however, incumbent licensees are typically precluded from expanding their interference contour in any direction without the consent of the auction winner. It is unlikely that the auction winner would grant its consent. Indeed, one of the auction winner's prime motivations is to clear as much of the spectrum as possible to enhance the value of its assets. If the incumbent licensee needs to expand its interference contour, the auction winner has extraordinary leverage over the incumbent licensee.

If a utility cannot expand its private internal communications systems to cover new or expanded service areas this will impair its ability to utilize its land mobile communications system. The system in essence becomes “landlocked” and can not be dynamically reconfigured to meet a utility’s changing needs.

For example, a utility’s service area often includes both rural and metropolitan areas. Utilities often need to license more frequencies in metropolitan areas because they provide service to more customers and as a result, the infrastructure in the metropolitan area can be quite complex and complicated. As the population grows, the metropolitan areas will often expand into the rural areas. Utilities will therefore, need to license additional frequencies to provide the same level of service in areas where the population grows. If an overlay auction has occurred, there will be no additional frequencies to license. Instead of using five frequencies for 50,000 customers, the same five frequencies might be needed for 100,000 customers. The institution of overlay auctions in the spectrum bands currently used by the utilities would negatively impact the utilities’ ability to respond to increased communications demands arising as a result of system growth.

3. The Requirements of Section 309(j)(2) Must Be Strictly Applied

The United States Court of Appeals for the D.C. Circuit, in *National Public Radio v. Federal Communications Commission (“NPR”)*,⁴⁵ has provided guidance on how the Commission is to effectuate the auction exemption language of Section 309(j)(2). In that case, National Public Radio challenged the decision by the Commission to exempt noncommercial educational broadcast stations from auctions only if the noncommercial educational broadcast

stations were licensed in bands that were specifically reserved for noncommercial educational broadcasting. The Court disagreed, and held that the Commission is precluded from requiring any noncommercial educational broadcasters from participating in auctions to obtain a license based on the plain language of Section 309(j)(2). Section 309(j)(2) exempts certain license applicants from having to acquire their licenses through competitive bidding “based on the nature of the station that ultimately receives the license, not on the part of the spectrum in which the station operates.”⁴⁶

In the case of the public safety radio services exemption, the Commission has concluded that the exemption applies only to frequency bands if the “dominant” use of the band is by public safety radio services. Through the adoption of the “dominant” use test -- support for which cannot be found in either the statute or the legislative history -- the Commission has based the availability of the public safety radio services exemption on the character of the frequency band instead of looking at the nature of the station that receives the license.⁴⁷ As discussed above, the public safety service exemption applies to private internal radio stations that are used to protect

⁴⁵ *National Public Radio v. FCC*, 254 F.3d 226 (D.C. Cir. 2001) (“NPR”).

⁴⁶ *Id.* at 228.

⁴⁷ Although Section 309(j)(2)(C) defines the exempt noncommercial educational broadcast applications by reference to “stations,” and Section 309(j)(2)(A) describes the exempt public safety applications by reference to “services,” the result is the same: to exempt certain applicants from having to compete in auction for particular uses of the spectrum. The Commission has interpreted the term, “public safety radio services,” to refer to designated frequency bands where the “dominant” use is for public safety. However, the word “service” is used in similar contexts in the Communications Act to refer to the actual service provided via the facilities; not to a particular frequency band or administrative classification used by the Commission when allocating spectrum. (e.g., “Mobile Service” means a “radio communication service carried on between mobile stations or receivers and land stations.” 47 U.S.C. Sec. 3(27). Also “commercial mobile service” means “any mobile service (as defined in section 3) that is provided for profit...” 47 U.S.C. Sec. 332(d)(1)). Nothing in Section 309(j)(2) or in its legislative history indicates that Congress intended to redefine the term “radio service” to mean “frequency allocation.”

the safety of life, health, or property, and are not made commercially available to the public. Therefore, in applying the “public safety radio services” exemption, the Commission should not focus on the band, but rather on the how the station is used in determining the scope of the auction exemption.

V. ALTERNATIVES TO SPECTRUM-DEPENDENT EQUIPMENT MAY NOT MEET THE NEEDS OF UTILITIES

The NTIA Report also discussed whether utilities have alternatives to their own private wireless networks and if the alternatives would meet their communications needs.⁴⁸ Specifically, the NTIA Report discussed the advantages and disadvantages associated with utilities using commercial wireless service, wireline telephone networks, and fiber optic cables.

In determining which type of communications to use, Entergy will investigate whether it should use a private wireless communications system or whether an alternative, such as commercial service or a non-spectrum-dependent facility, is appropriate. In some circumstances Entergy has used alternatives to its own private wireless communications systems. However, because utilities need guaranteed communications throughout their entire service area, twenty-four hours a day, seven days a week, Entergy has found that the alternatives specifically available to it often do not meet this high standard.

A. Commercial Wireless Services

Commercial wireless providers are often not an adequate alternative because of the high level of performance utilities require of their mobile operations. Utilities typically configure their private internal communications systems to provide wireless service over their entire

service area, concentrating their spectrum holdings at locations with the highest level of utility use, which is often not in densely populated areas. A commercial carrier's system may not cover a utility's service area as extensively as the utility's own system and may not provide capacity at peak loading sites. For example, sites with a high degree of activity based on their complexity and importance require more capacity. Commercial carriers typically provide seamless service only in areas where it makes economic sense to do so, typically in metropolitan areas and along major interstate highways. As a result, commercial carriers may not provide coverage at all in remote areas or may not provide coverage that is seamless. If a single carrier does not cover a utility's entire service area, a utility would need to use multiple carriers or maintain its private internal communications system as well as contract for commercial service.

Additionally, utilities typically build a level of redundancy and reliability into their wireless systems to insure service availability at all times. For example, many utility communications sites have independent back-up power sources. A commercial carrier may or may not have the same level of reliability built into its system.⁴⁹ Because they are specifically designed for redundancy, a utility's communications system is unlikely to be adversely affected by natural disasters or other adverse conditions. For example, in January of 1998 a series of ice storms swept through New England causing extensive damage to the critical infrastructure. The ability to communicate was also hampered by the storm. "The destruction of large numbers of distribution poles and their attached cables combined with widespread electric service outages to telephone switching centers severely disrupted communications over the public-switched

⁴⁸ *NTIA Report* at 3-12 to 3-16.

⁴⁹ In August of 2001, thousands of cellular customers in the Washington, D.C. area lost service for more than eight hours due to a loss of commercial power at a cellular switching station. *Business Briefs*, San Antonio Express-News, August 10, 2001 at 2E.

telephone network, fiber optic, and cellular systems. . . . The most reliable means of communications was found to be the utility owned and operated microwave and mobile radio systems.”⁵⁰

Furthermore, in the event of a failure in the commercial provider’s system, a utility would have little control over how quickly service is restored or if service will be restored based on the utility’s priorities. Utilities need to control their own private internal communications systems to ensure that service will be restored based on their priorities.

Another consideration is that commercial providers may change the nature of their service offerings at the end of a contract term, which could place utilities in the position of having to choose between a lengthy contract term or uncertainty over the terms of their service. While these issues could be addressed in the contract process to some degree, utilities require a high degree of consistency and reliability in their wireless communications capabilities, which generally makes commercial options unrealistic for critical communications needs.

Utilities must also be able to use their private internal communications systems during a storm or other natural disaster, because that is the time when emergency repairs are most likely to be required. Such times are also subject to heavy demand for communication by the public at large.⁵¹ Utilities must be able to rely on their communications systems twenty-four hours a day, seven days a week.

⁵⁰ North American Electric Reliability Council, 1998 System Disturbances, Review of Selected Electric System Disturbances in North America (May, 2001) at 11.

⁵¹ *In the Matter of The Development of Operational, Technical and Spectrum Requirements For Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010; Establishment of Rules and Requirements For Priority Access Service*, WT Docket No. 96-86, *Second Report and Order*, 15 FCC Rcd 16720, 16725 ¶ 11 (2000).

B. Wireline Telephone Networks

The wireline telephone network is also not an adequate alternative to a utility's own wireless communications system. A utility company must use mobile communications because it allows field crews to communicate under a variety of circumstances, such as while they are on a pole top thirty feet above the ground repairing an electrical line. With wireless communications, a crew member can inform the utility's dispatcher about the extent of the damage and develop appropriate repair procedures without leaving his or her position. If the repair is quite complicated and the worker needs to discuss the best procedure for repairing the damage, the worker can easily communicate with the dispatcher while still at the site. This is particularly beneficial because a crew member can answer questions about the extent or type of damage while at the site and viewing the damage. Any questions concerning what has occurred or how to proceed can be answered immediately. Real-time communication from the site reduces the repair time. Without mobile communications this would be impossible, and the worker would have to return to the main office or find the nearest telephone. It is much more efficient for the worker to discuss the repair work while remaining on top of the pole. Wireless systems therefore allow the repair work to be completed more quickly and more efficiently.

Another reason that utilities do not rely on the wireline telephone network is that telephone lines can be disabled when utilities need their communications system the most. If a storm or other natural disaster knocks down the electrical lines, it is very likely that the telephone lines also will have been damaged. Interdependence between utilities and the phone company should be minimized to mitigate the effect that a disruption to one would have on the other. If the telephone lines and the electrical lines were both damaged and both the electric utility and the

telephone company relied on each other, the repair time for both companies would be greatly increased. By using phone lines to communicate or for operational purposes, the electric utility might not be able to restore electrical service until the telephone company has repaired the phone lines. Conversely, the phone company might need electricity to operate its network. Interdependence increases the possibility that a “routine disturbance can cascade into a regional outage.”⁵² As a result, utilities should not depend on the public switched telephone network to be operational during the time when an effective communications system is most critical to them.⁵³

C. Fiber Optic

Fiber optic networks were another alternative identified in the NTIA Report.⁵⁴ Fiber can be used instead of some spectrum-dependent equipment, such as point-to-point microwave or Multiple Address Systems. It is often, however, more cost-effective to use spectrum-dependent equipment. In order to lay fiber, a utility needs to acquire the right-of-way through the land and then lay the fiber, which can be particularly difficult if the terrain is uninhabited or the fiber needs to traverse a waterway or ravine. Although fiber optic facilities are good for high bandwidth applications, it can be difficult and inefficient to use fiber optics for relatively low bandwidth applications to multiple locations requiring significant add/drop insertions. As a

⁵² James Peerenboom, Ronald Fisher, Steven Rinaldi, and Terrence Kelly, *Studying the Chain Reaction*, Electrical Perspectives, January/February 2002.

⁵³ Wireless is also an ideal communications medium for service to electric substations due to a phenomenon known as “ground potential rise,” which can induce electric current onto metallic communications cables on or near substations in the event of an electric fault at the facility.

⁵⁴ *NTIA Report* at 3-12 to 3-14.

result, it is often much more expensive to lay fiber than it is to use spectrum-dependent equipment such as a Multiple Address System.

In addition, many of the reasons why utilities cannot rely on the wireline telephone networks are also reasons why fiber optics are not used. Specifically, fiber optic cables are not mobile and the cables can be easily cut (*e.g.*, “backhoe fade”). These limitations often prevent utilities from using fiber optic cables.

VI. CONCLUSION

In conclusion, utilities are a vital component of the Nation’s critical infrastructure, and a disruption in service could pose a threat to the Nation’s public safety and economic security. To ensure that service is not interrupted, utilities rely on their private internal communications systems. Therefore, the Commission must take action to ensure that utilities can depend on their private internal communications systems.

To accomplish this goal, the Commission should allocate additional spectrum for utilities. The bands currently used by utilities are congested and there is a limited amount of clear spectrum available for the utilities’ private internal communications systems. In addition, the Commission should not take any action such as band reallocations or “realignments,” that would reduce or disrupt the spectrum available to utilities. Finally, the Commission should reconsider whether spectrum that is relied upon by utilities can be auctioned because the law prohibits the Commission from holding auctions for licenses that are used by utilities to protect the safety of life, health, or property and are not made commercially available to the public.

WHEREFORE, THE PREMISES CONSIDERED, Entergy respectfully requests that the Commission consider these comments and proceed in a manner consistent with the views expressed herein.

Respectfully submitted,

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Dated: March 6, 2002

CERTIFICATE OF SERVICE

I, Christine S. Bisio, do hereby certify that on this 6th day of March 2002, a copy of the foregoing "Comments for Entergy Services, Inc" was mailed via U.S. Mail, postage prepaid to each of the following:

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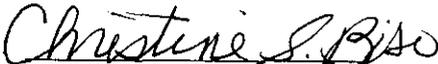
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