

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

In the Matter of)	
)	
Amendment of Part 90 of the Commission's Rules)	WT Docket No. 05-62
To Provide for Flexible Use of the 896-901 MHz)	
and 935-940 MHz Bands Allotted to the Business)	
and Industrial Land Transportation Pool)	
)	
Oppositions and Petitions for Reconsideration of)	DA 04-3013
900 MHz Band Freeze Notice)	

To: The Commission

COMMENTS OF FLORIDA POWER & LIGHT COMPANY

FLORIDA POWER & LIGHT COMPANY

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SUMMARY

Florida Power & Light Company (“FPL”) is an electric power utility serving more than seven million people in 34 counties across the State of Florida. FPL urges the Commission to (1) adopt for 900 MHz the same interference protection rules that were adopted for 800 MHz; (2) set aside 2.5 MHz of spectrum for private internal use to be licensed on a site-by-site frequency coordinated first come, first served basis; and (3) require that geographic-area-based licensees coordinate their frequency usage with co-channel adjacent incumbents. FPL also suggests that the spectrum that is auctioned be licensed by Basic Economic Area in 5-channel blocks, that loading requirements be retained for the spectrum reserved for private internal use, that geographic separation requirements and emission and field strength limits be adopted as proposed by the Commission, and that Part 90 of the Commission’s rules be applied to the use of the spectrum.

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Florida Power & Light Company (“FPL”), by its attorneys and pursuant to Section 1.415(b) of the Commission’s rules,¹ hereby files its comments in response to the Notice of Proposed Rulemaking and Memorandum Opinion and Order, FCC 05-31, released February 16, 2005 (“NPRM”). By Order, DA 05-1084, released April 14, 2005, the time period for filing comments was extended until May 18, 2005.

I. Background

A. Florida Power & Light Company

FPL is an electric power utility serving more than seven million people in 34 counties across the State of Florida. This constitutes approximately half of Florida’s population. FPL’s extensive service territory covers approximately 27,650 square miles, primarily along the eastern seaboard and southern third of the State. FPL provides power to residential, commercial, governmental, and industrial customers. As such, FPL’s operations affect virtually every aspect

¹ 47 C.F.R. § 1.415(b).

of daily life within its service territory, as well as the ability of the public safety and health services communities to deliver their critical services to the public.

FPL relies extensively on its wireless radio facilities to communicate with field personnel and monitor and maintain its power distribution system. Its communications network includes 900 MHz voice, UHF data, VHF voice, VHF data, and point-to-point authorizations in the 960 MHz and 6 GHz bands, which serve as vital elements in FPL's use of land mobile and microwave communications to assure the safe and efficient generation and distribution of electric power. By far, the most important part of FPL's communications network is its 900 MHz system, which is key to providing electrical restoration services and homeland security support. Further, during the normal course of business, and particularly during times of emergency, these radio facilities are critical to FPL's ability to safely dispatch crews and assure the continued delivery of electric power throughout its service territory. FPL also provides power to many entities that provide vital services utilized on a daily basis, such as telecommunications companies, government agencies, and transportation providers (*e.g.*, mass transportation and airports).

FPL built its 900 MHz communications system at a cost in excess of \$40 million. These facilities are used as the primary voice communications on its utility trucks as well as to protect and secure its nuclear power plant sites. FPL relies on its 900 MHz facilities to service its power distribution system and to respond to emergencies, such as Florida hurricanes, as well as activities that potentially threaten life, health, and property. In times of emergency, commercial wireless systems are often unable to handle the large volume of calls, and call-blocking occurs. FPL's 900 MHz system is used to dispatch crews and maintain the safety of crews as they climb up poles and towers to effectuate repairs. The citizens of south Florida expect rapid restoration

of power during times of outage, and the 900 MHz radio system is a critical component of FPL's ability to respond quickly and safely. FPL depends upon its internal wireless infrastructure to ensure that it has reliable and readily available radio communications so that it can quickly respond not only to emergencies, but also to other vital matters that affect its power network and customers.

B. The Notice of Proposed Rulemaking

In the NPRM the Commission proposed rules for commercial use of the 199 channels allocated to the Business and Industrial Land Transportation ("B/ILT") Pools in the 896-901/935-940 MHz bands. The Commission also proposed to license the remaining spectrum in geographic areas using auctions. In the comments below, FPL addresses geographic size and number of channels in each channel block; the need to reserve channels for B/ILT use; protection of incumbents; emission and field strength limits; loading requirements; and application of the Part 90 rules² to the use of the spectrum.

II. Channel Blocks and Geographic Areas

A. The Commission Should License Basic Economic Areas

In the NPRM, the Commission asked whether the geographic size of the licenses should be based upon Major Economic Areas ("MEAs") or smaller areas such as Basic Economic Areas ("EAs"). NPRM at paras. 21-25. As qualified by the discussion in subsection C below, FPL supports smaller areas such as EAs. The problem with larger areas is that applicants are forced to obtain much larger land areas than they need, and much of the spectrum remains unused in the portions of the market that are not part of their area of interest. For the same reason, larger areas limit the ability of incumbents to participate in geographic area licensing because incumbents

² 47 C.F.R. §§ 90.1 *et seq.*

may not have the budgets to obtain coverage beyond the areas where they need to have service. In the case of utilities, the purchase of spectrum is passed on to the ratepayers as a cost of doing business, and utilities are obligated to consider the interests of the ratepayers by keeping costs as low as possible. Moreover, past experience shows only limited use of the partitioning option. It is therefore preferable that the Commission auction smaller areas such as EAs so that applicants can obtain licensing areas that resemble more closely the area that they intend to serve. To the extent that EAs are too small for certain applicants, they can obtain multiple contiguous EAs in the auction.

B. The Commission Should License Blocks of 5 Channels

In the NPRM the Commission asked parties to comment on the size of the channel blocks for licensing. NPRM at paras. 26-30. As qualified by the discussion in subsection C below, FPL supports licensing blocks of five channels each. For the same reason that the geographic areas need to be small, the channel blocks need to be small as well. Licensing smaller channel blocks avoids the problem of applicants purchasing more channels than they need. It also permits incumbents, who often have limited budgets to obtain licenses. As mentioned earlier, utilities have an obligation to their ratepayers to avoid unnecessary costs, and keeping the size of the channel blocks small makes it possible for the utilities to avoid purchasing unnecessary channels. To the extent that applicants desire larger numbers of channels, they can simply purchase multiple blocks for the same geographic area.

C. 2.5 MHz of Spectrum Should be Set Aside for Non-Commercial Internal Use Only to be Licensed on a Frequency Coordinated Site-By-Site Basis

When the 900 MHz spectrum was originally allocated in 1986, 6 MHz was allocated to the Public Safety pool, 5 MHz to the Specialized Mobile Radio (“SMR”) pool, 2.5 MHz to the

Industrial/Land Transportation (“IT”) pool, and 2.5 MHz to the Business pool.³ At the time, the Commission determined that the pool approach “. . . provides a reasonable period of time for potential users with similar types of mobile communications requirements to apply for spectrum without competing against applicants with substantially different types of mobile communications requirements or applicants seeking to establish commercial radio systems.”⁴ Thus, 99 channels were allocated to the IT pool, 100 channels to the Business pool and 200 channels to the SMR pool.⁵ In recognition of this pool structure, the Commission designated the 200 channels in the 900 MHz SMR pool as commercial mobile radio service (“CMRS”), but did not change the private radio designation of the B/ILT channels.⁶ The FCC completed Auction No. 7 for the 900 MHz SMR frequencies on April 15, 1996.⁷

While the 900 MHz SMR spectrum that was auctioned back in 1996 remains underutilized, there has been intense utilization of the 900 MHz B/ILT spectrum. Many utilities and other companies that experienced overcrowding of the 800 MHz and lower spectrum, chose to design and build systems at 900 MHz to accommodate their internal communications needs. As mentioned earlier, FPL spent over \$40 million building a 900 MHz system. This system is critical for electrical maintenance and restoration and nuclear power plant security, and is

³ *Amendment of Parts 2 and 22 of the Commission’s Rules Relative to Cellular Communications Systems; Amendment of Parts 2, 15, and 90 of the Commission’s Rules and Regulations to Allocate Frequencies in the 900 MHz Reserve Band for Private Land Mobile Use*, 2 FCC Rcd. 1825, 1831 at ¶ 50 (1986).

⁴ *Id.* at 1831, ¶ 46.

⁵ 47 C.F.R. § 90.617. The IT and Business pools were later combined to become the Business/Industrial Land Transportation (“B/ILT”) pool.

⁶ *Implementation of Sections 3(n) and 332 of the Communications Act; Regulatory Treatment of Mobile Services*, 9 FCC Rcd. 7988, 8050 at ¶ 113 (1994).

⁷ *FCC Announces Winning Bidder in the Auction of 1,020 Licenses to Provide 900 MHz SMR in Major Trading Areas*, Public Notice, DA 96-586, April 15, 1996.

particularly important during periods of power outages resulting from hurricanes and other emergencies.

FPL and other critical infrastructure companies designed and built their 900 MHz systems by coordinating the frequencies that they needed where they needed them. This resulted in intense utilization of the spectrum, because each company was able to shoe horn in additional channels, so long as they met the basic spacing requirements or the short-spacing requirements found in Section 90.621 of the Commission's rules.⁸ Therefore, there are very few opportunities to obtain additional channels to construct additional facilities at 900 MHz in most metropolitan areas, including the nearby rural areas. This is certainly the case in urban, suburban and rural Florida where FPL operates. To the extent that there may be a few channels available to shoe horn in additional sites or add channels to existing facilities, the Commission should allow the spectrum to remain available for internal use on a site-by-site frequency coordinated basis. That way, utilities and other critical infrastructure companies can obtain these frequencies to the extent they are available to satisfy their growing need for spectrum.

FPL therefore proposes that 2.5 MHz of spectrum be reserved for private, internal use only. Specifically, FPL proposes that the 99 channels originally allocated to the Industrial/Land Transportation pool be reserved. FPL further proposes that these frequencies not be auctioned. Rather, FPL proposes that they continue to be assigned as in the past – on a frequency coordinated, first come, first served basis as the channels are needed by the applicants and as the applicants are able to demonstrate that their existing channels are fully loaded. This approach is much more spectrum efficient than auctioning arbitrary blocks of channels based on EAs or other

⁸ 47 C.F.R. § 90.621.

pre-defined markets. Instead, companies must frequency-coordinate and apply for the channels they need and no more.

On the other hand, if the Commission were to auction blocks of spectrum, companies will end up buying more channels and more area than they need because the spectrum would be sold at auction in pre-packaged units. Moreover, an auction of all or substantially all of the 900 MHz spectrum would result in critical infrastructure companies competing against commercial wireless providers, as was the case in the recent multiple address system (“MAS”) auction. This situation can result in critical infrastructure companies either paying excessive prices for spectrum or being unable to obtain spectrum that they desperately need. Either result would be inimical to the public interest. If the critical infrastructure companies pay excessive prices for spectrum, the cost is passed on to their customers in the form of higher utility rates. If the critical infrastructure companies do not obtain the spectrum they need, service to customers will suffer.

D. Loading Requirements Should be Retained for Channels Reserved for Private Internal Use

Because FPL is proposing that the 99 channels originally allocated for Industrial/Land Transportation use be assigned on a frequency coordinated, first come, first served basis, FPL recommends retaining the channel loading requirements⁹ for B/ILT licensees operating in urban and suburban areas where channel availability is at a premium. Retaining the requirements will avoid speculation and warehousing of spectrum. To the extent that there are licensees who have more channels than they require to satisfy the loading requirements, such licensees can either turn in their extra channels for cancellation or assign those channels to other licensees who need

⁹ See 47 C.F.R. §§ 90.631 and 90.633.

them for private, internal use. In other words, the channel loading requirements help encourage a redistribution of channels from those with excess capacity to those who need them.

To help achieve this objective, FPL recommends that the Commission initiate an amnesty period during which licensees who are not utilizing their channels may return them for cancellation without penalty. The amnesty period should be followed by an audit resulting in revocation and license modification proceedings to reclaim the underutilized channels.

E. Reserving 2.5 MHz for Private Internal Use Will Serve the Public Interest

FPL's proposal to reserve 99 channels for private, internal use will advance the public interest because it reserves some capacity for critical infrastructure companies who need the spectrum to further their critical infrastructure company mission. For example, when there is a power blackout due to a hurricane, thunderstorm or ice storm, the citizens of the area place a high priority on electrical restoration and often complain when power is not restored on a timely basis. The radio spectrum used by the utilities is a critical component of the electrical restoration process because the radios are needed to dispatch crews, and for safety reasons, the crews are required to have accessible radio contact when they climb utility poles and towers.

FPL needs its own communications system and cannot rely on CMRS carriers because CMRS systems are often overloaded during times of emergency – the very time when a critical infrastructure company needs communications the most. Specifically, in 1985 FPL piloted the use of a CMRS system for utility restoration communications. FPL found that the system did not provide the availability required to serve daily restoration requirements. The CMRS system failed, was congested, and did not provide coverage to all the remote rural areas required for utility operations. Based on this trial, FPL decided to invest over \$40 million to develop a private system that would satisfy its communications requirements.

Recent events have validated FPL's decision to build its own 900 MHz system, and further demonstrate the critical public interest need to enable utilities to obtain the spectrum that they require for electrical restoration purposes. For example, as south Florida was hit by three major hurricanes during the 2004 hurricane season, a number of employees were reassigned to service restoration and support roles for restoration. FPL observed that the local CMRS systems were heavily damaged and very congested. During these emergency periods, FPL extensively used its 900 MHz system for the continued power restoration efforts. These efforts would have been hindered had the 900 MHz private spectrum not been available to FPL.

Reserving 99 channels for private internal use, still leaves 300 channels, that is, three-quarters of the 900 MHz channels, for CMRS use. These 300 channels, which include the 200 under-utilized 900 MHz SMR pool channels auctioned in 1996 and the 100 channels originally allocated to the Business pool, will provide the additional SMR capacity needed during the 800 MHz rebanding process.

III. Treatment of Incumbents and Interference Protection

A. Maintain Geographic Separation Requirements

FPL agrees with the Commission's proposal at para. 34 of the NPRM that geographic area licensees should afford protection to incumbent B/ILT systems by either (1) locating their facilities at least 113 km (70 miles) from the incumbent's facilities, (2) complying with the Commission's short-spacing requirements, or (3) reaching agreement with the incumbent on the location and operating parameters of the new facilities. The Commission's proposal is consistent with Section 90.663(a)(1) of the rules,¹⁰ which applies to the geographic area licenses for the 200

¹⁰ 47 C.F.R. § 90.663(a)(1).

SMR pool 900 MHz channels. The requirements of Section 90.621 of the Commission's rules¹¹ have worked well, and FPL does not see any reason to change something that has worked well.

B. Adopt Interference Abatement Rules for 900 MHz Identical to those at 800 MHz

The Commission at para. 35 of the NPRM expressed concern that, with the advent of low site, digital SMR systems at 900 MHz, the interference problems experienced at 800 MHz could be experienced at 900 MHz as well. FPL shares this concern, which is based upon its actual experience. Specifically, FPL spent over \$1 million and extensive manpower to address interference issues that existed at 900 MHz when its current system was deployed. The interference was caused by adjacent commercial cellular systems in the extended cellular band that met the emission masks required by the Commission's rules. Therefore FPL is very concerned that a low site digital SMR system operating within the 900 MHz band will cause even greater interference to 900 MHz incumbent users.

The propagation characteristics of the 900 MHz band are nearly identical to the propagation characteristics of the 800 MHz band. Therefore, FPL considers it essential that the Commission adopt interference abatement rules for 900 MHz that are identical to the 800 MHz rules. To do anything less would result in the 800 MHz problems moving to 900 MHz without an adequate means of resolution.

C. Adopt Grandfathering Provisions for Incumbents

FPL agrees with the proposal at para. 36 of the NPRM to define the existing service area of an incumbent B/ILT system by its originally-licensed 40 dB μ V/m field strength contour. This provides incumbents with the flexibility to make modifications, so long as the original 40 dB μ V/m field strength contour is not expanded. FPL also agrees with the Commission's

¹¹ 47 C.F.R. § 90.621.

proposal to permit incumbents to combine contiguous and overlapping 40 dB μ V/m field strength contours into a single license. The Commission's proposal is consistent with Section 90.667 of the rules,¹² which provides for the same type of grandfathering of incumbent licensees who were operating on channels allocated to the 200 SMR pool 900 MHz channels.

D. Adopt Emission Mask for Adjacent Channel Interference Protection

FPL agrees with the Commission's proposal at para. 42 of the NPRM that on any frequency in a geographic area licensee's spectrum block that is adjacent to a non-geographic area frequency, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 plus 10 log₁₀(P) decibels or 80 decibels, whichever is the lesser attenuation. The emission mask is necessary to protect incumbents from interference. The Commission's proposal is consistent with Section 90.669 of the rules,¹³ which applies to the geographic area licenses for the 200 SMR pool 900 MHz channels.

E. Adopt Field Strength Limits for Area Licensees Subject to Minimum Separation Distances and Coordination with Adjacent Licensees

FPL agrees with the NPRM proposal at paras. 43-44 to adopt 40 dB μ V/m as the maximum field strength at the geographic licensee's service area border. As stated in the text of proposed revised rule Section 90.671,¹⁴ in order to protect incumbents from co-channel interference, this maximum field strength must be further limited by the geographic separation distances found in Section 90.621(b) of the Commission's rules and discussed above.

The text of the proposed revised rule Section 90.671 also states in pertinent part: "Geographic-area-based licensees are also required to coordinate their frequency usage with co-

¹² 47 C.F.R. § 90.667.

¹³ 47 C.F.R. § 90.669.

¹⁴ 47 C.F.R. § 90.671.

channel adjacent geographic-area-based licensees and all other affected parties.” FPL considers it critical that the Commission make it clear that “all other affected parties” includes co-channel incumbent licensees. Specifically, just as geographic-area-based licensees must coordinate with other co-channel adjacent geographic-area-based licensees, they should be required to coordinate with co-channel adjacent incumbents. By coordinating with the co-channel adjacent incumbents, the incumbents will be aware of the operations of the geographic-area-based licensees and will be able to monitor for and protect themselves from interference.

IV. Part 90 Requirements

FPL supports the NPRM proposal at para. 53 to apply Part 90 of the Commission’s rules. The 900 MHz frequencies have been governed by Part 90 of the rules, many of the Part 90 rules such as height and power restrictions are essential to prevent interference, and it makes sense to continue that regime.

V. Conclusion

Florida Power & Light Company supports modification to the Commission's rulemaking proposal as discussed herein. In particular, FPL urges the Commission to (1) adopt for 900 MHz the same interference protection rules that were adopted for 800 MHz; (2) set aside 2.5 MHz of spectrum for private internal use to be licensed on a site-by-site frequency coordinated first come, first served basis; and (3) require that geographic-area-based licensees coordinate their frequency usage with co-channel adjacent incumbents. FPL also suggests that the spectrum that is auctioned be licensed by Basic Economic Area in 5-channel blocks, that loading requirements be retained for the spectrum reserved for private internal use, that geographic separation requirements and emission and field strength limits be adopted as proposed by the Commission, and that Part 90 of the Commission's rules be applied to the use of the spectrum.

Respectfully submitted,

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