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May 15, 1995

RM 8657

RECEIVED
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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: Petition of the South Florida Water Management District for Declaratory Ruling

Dear Mr. Caton:

Pursuant to Sections 1.2 and 1.51(c) of the Commission's Rules, enclosed for filing are an original and four (4) copies of the South Florida Water Management District's Petition for Declaratory Ruling. An additional copy has been enclosed for date-stamped return.

Please contact the undersigned if you have any questions regarding this submission.

Sincerely,

Darren L. Nunn

Enclosures

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED
MAY 15 1995
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

In the Matter of Petition for Declaratory Ruling that Microwave System Operated by The South Florida Water Management District Is a Public Safety Facility	No. _____ RM 8657

PETITION FOR DECLARATORY RULING

Pursuant to 47 C.F.R. § 1.2, the South Florida Water Management District ("District") hereby petitions the Commission for a declaratory ruling that its 2 GHz microwave network constitutes a "public safety facility" for purposes of Section 94.59 of the Commission's Rules.

BACKGROUND

The Commission recently reallocated spectrum in the 2 GHz band to broadband Personal Communications Services ("PCS") and adopted rules for relocating the facilities of microwave licensees that presently operate on that band. Under the new rules, incumbent licensees are encouraged to negotiate relocation agreements with PCS providers during a two-year period that commences when the Commission begins accepting applications from licensed PCS providers.[1/] Following this voluntary negotiation period, the Commission requires incumbent licensees to negotiate with PCS

1/ 47 C.F.R. § 94.59(b).

providers for a one-year period commencing at whatever particular time after the voluntary period expires that the PCS provider desires to initiate such negotiations.[2] By the end of this mandatory negotiation period, FCC rules require that the incumbent licensee and the PCS provider must have reached an agreement providing for the relocation of the incumbent licensee's facilities to frequencies outside the PCS band.

While all microwave licensees must move to other bands if they are asked to do so by a PCS provider authorized to operate on the microwave licensee's frequencies, Commission rules give "public safety" microwave licensees more time than other microwave licensees to negotiate such relocation agreements. Instead of a two-year voluntary negotiation period, public safety licensees have a three-year voluntary negotiation period. And instead of a one-year mandatory negotiation period, they get two years.[3]

Under the Commission's rules, microwave licensees are deemed to operate public safety networks in one of two situations. First, a microwave network is automatically classified as a public safety network if its transmitters are licensed under Section 90.19 (police radio service), Section 90.21 (fire radio service), Section 90.27 (emergency medical radio service), or Sections 90.33-90.55 (which include a variety of uses, including systems licensed for use by veterinarians, school buses, and beach patrols).[4] Second,

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[2] Id.

[3] Id.

[4] 47 C.F.R. § 94.59(f).

a microwave system will be classified as a public safety network if (a) the network is licensed on a primary basis under the eligibility requirements of Part 90, Subparts B and C; and (b) the network licensee demonstrates in a petition to the Commission "that the majority of the communications carried on [the network] . . . are used for operations involving safety of life and property."[5]

While the District's microwave network does not qualify for automatic classification as a public safety system since it is not licensed under Sections 90.19, 90.21, 90.27, or Sections 90.33-90.55, the Commission should classify the network as a public safety facility under the second method of qualifying for public safety status described above. This is because the District's system is licensed on a primary basis under the eligibility requirements of Part 90, Subpart B,[6] and a majority -- indeed all -- of the communications carried on the system are for operations involving the safety of life and property, as shown below.

DISCUSSION

The District is a political subdivision of Florida charged with the responsibility of meeting the needs of an 18,000 square mile area of south Florida with respect to (i) flood protection, (ii) water supply, (iii) water quality protection, and (iv) environmental protection and enhancement. To carry out these four responsibilities, a large, intricate canal system (stretching from

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[5] Id.

[6] The District's microwave radio transmitters are licensed under 47 C.F.R. § 90.25 (Forestry-Conservation Radio Service).

north of Lake Okeechobee to south of Miami and containing more than 1,500 miles of canals and levees) has been engineered to manage the flow of surface water. A series of large gate structures and pumping stations regulate water levels in the canals and levees; the gates can be opened or closed to reduce or increase water levels, and the pumps are used in conjunction with the gates to redistribute water.

This complex system is controlled by the District's microwave telemetry network. The microwave network consists of 48 transmitters (all of which operate in the PCS band) as well as remote units at 96 different sites which monitor the structural status of gates and levees, gate position, pumping status, water levels, salinity concentration, conductivity, dissolved oxygen, rain fall, wind velocity, and other weather related data. The transmitters scan the network of remote monitoring units every one to three minutes to retrieve the data they have stored and then analyze the data to open or close gates, control the pumping stations, and alert staff to potential problems.

As shown below, the District's network should be classified as a "public safety" network since all four functions the network performs are functions that relate exclusively to protection of property and life.

A. Flood Protection

First, by controlling gate positions and pump activity in order to prevent flooding, the District's network plainly protects property and life. Transmitters instruct canal gates to open or

close (and instruct pumps to turn on or off) based on information received from the remote units. If an instruction for a gate to open were not transmitted, or if a transmitter did not receive data concerning dangerously high water levels, the canals could become too full and flooding could cost lives and millions of dollars in property damage. Similarly, if a levee or gate were to burst from structural stress, lives could be lost and considerable property damage could result.

Since the potential for flooding is greatest during hurricanes and heavy rains, it is then that the value of the District's system in preventing floods is most evident.[7/] Before the system was operational 20 years ago, hurricanes routinely caused severe damage in the region. A hurricane in the late 1920s, for example, caused Lake Okeechobee to overflow, and flooding resulted in the deaths of over 3,000 people and the destruction of huge tracts of land. Even with the microwave transmitter system in place, disruption of system communications still can cause problems. Approximately 15 years ago, for instance, a levee east of Lake Okeechobee broke causing extensive local flooding and property damage.

[7/] While the value of the District's radio system is most evident during hurricanes and heavy rains, these same weather conditions can severely impair the ability of a radio network to operate effectively. A high concentration of moisture in the air, for example, can interfere with radio transmissions, a phenomenon known as "rain attenuation." Strong winds can blow down antennae structures. To mitigate these harmful effects, the District operates its radio network at the lower microwave frequencies (between 1855 MHz and 1985 MHz) and uses only microwave dishes rated to survive wind gusts of up to 150 mph.

The network's role in flood prevention has always been crucial, but it is even more important today than 20 years ago when the network became operational because of the tremendous population growth that has occurred since that time. In the 1970s and 1980s, an average of almost 1,000 people moved into south Florida each day, many of whom settled in areas of low elevation.

B. Water Supply

The District's microwave network also protects property and lives by helping to ensure that water supply problems do not occur. South Florida relies on the District for nearly all of its agricultural, commercial, and residential water needs, placing heavy demands on the District's microwave network. Unfortunately, the threat to this region's water supplies, generated by three decades of massive population growth, has taken its toll on the state's natural resources. More than 80 percent of this growth has occurred along the coastal areas, which already face stress from saltwater intrusion into well-fields, loss of aquifer recharge areas, and the disappearance of environmentally sensitive lands.

As noted above, most microwave communications within the District's network are used to control gate positions and pump activity, operations vital to the task of meeting the region's water supply requirements. If gates and pumps do not function properly, valuable fresh water may be irretrievably lost to the sea. Moreover, since most residential and agricultural uses of water require fresh water, if water levels in the District's reservoirs and canals sink too low, the fresh water contained in

coastal subterranean aquifers might become contaminated from saltwater intrusion, possibly destroying crops and causing a severe strain on the region's supply of drinking water.

C. Water Quality Protection

The District's microwave network also protects property and life because it is crucial to maintaining water quality. The quality of a region's surface and ground water obviously has a direct bearing upon the safety of the lives and property in that region; a contaminated water supply can be lethal to humans, and pollutants in the water supply can exact heavy tolls on the environment, leaving property virtually worthless. The District uses its microwave network to monitor and communicate information about regional water levels on a continuous basis so that it can prevent saltwater contamination of the near coastal well-fields upon which millions of Florida residents depend for fresh water.

D. Environment Protection and Enhancement

Finally, the District's radio network protects property by enabling the District to protect and enhance the environment in south Florida. The District recently initiated major efforts to evaluate and implement restoration projects for the entire south Florida ecosystem (including the Kissimmee River, Lake Okeechobee, the Everglades, and Florida Bay). Problems which have affected the ecosystem include changes in water flow, timing, distribution, and quality and invasion of non-native plants. The information transmitted over the District's microwave network plays a significant role in the effort to reclaim this important property.

Controlling water flow and timing, monitoring water quality, salinity concentration, and pollutant levels, and managing other important aspects of the water supply to the ecosystem are essential to protect and enhance this invaluable public property.

CONCLUSION

The Commission should issue a declaratory ruling that the District's 2 GHz radio network is a "public safety facility" for purposes of Section 94.59 of the Commission's rules.

Respectfully submitted,

THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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Dated: May 15, 1995