

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

In the Matter of)
)
Request for Declaratory Ruling on)
Partial-Band Licensing of Earth)
Stations in the Fixed Satellite Service that)
Share Terrestrial Spectrum)
)
Petition for Rule Making to Set Loading)
Standards for Earth Stations in the)
Fixed Satellite Service that)
Share Terrestrial Spectrum)

RM-9649

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OPPOSITION OF GE AMERICAN COMMUNICATIONS, INC.

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SUMMARY

The Commission should summarily reject the FWCC's request for a radical change in the long-standing policies concerning licensing and coordination of earth stations. Those policies are properly tailored to the unique needs of earth station licensees for flexibility to respond to customer demand and to restore service in the event of an outage. The FWCC's proposal would deprive earth station operators of that critical flexibility and vastly increase the complexity of earth station licensing and coordination.

The FWCC Petition starts from the faulty premise that in spectrum shared between fixed satellite and terrestrial fixed services, uniform rules should apply. In fact, the Commission's rules for earth stations are designed to ensure that satellite transponders are used efficiently and that customer needs can be accommodated if a facility malfunctions. Bandwidth loading requirements like those that apply to microwave systems would be disastrous for earth station operators, increasing costs for licensees and processing burdens for the Commission, and introducing substantial delay whenever a licensee needs to use new capacity.

The FWCC's request for additional requirements relating to the coordination process is also flawed. The FWCC argues that once an earth station operator accepts interference from a pre-existing terrestrial link, it should be required to accept additional interference from subsequent applicants. This argument ignores the aggregate impact of interference from various sources on an earth station licensee's ability to meet its service objectives.

The FWCC's request for declaratory ruling should be denied and its petition for rulemaking should be dismissed without further action by the Commission.

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OPPOSITION OF GE AMERICAN COMMUNICATIONS, INC.

GE American Communications, Inc. ("GE Americom"), by its attorneys and pursuant to Sections 1.2 and 1.405 of the Commission's Rules, 47 C.F.R. §§ 1.2 & 1.405, opposes the above-captioned Request for Declaratory Ruling and Petition for Rule Making of the Fixed Wireless Communications Coalition ("FWCC Petition" or "Petition").

As discussed below, the FWCC Petition seeks the reversal of over thirty years of consistent earth station licensing policy without providing a shred of evidence that such a change would be in the public interest. The Petition completely ignores the policy basis underlying existing practices regarding earth station licensing and the technical and economic realities on which those practices are based. The relief requested by the FWCC would seriously limit the efficient use

of satellite services, putting at risk the multi-billion dollar investment in satellite space station and ground segment facilities.

The Commission's current earth station licensing and coordination policies provide essential flexibility to operators and to the Commission. These policies should be retained, and the FWCC Petition should be summarily dismissed.

INTRODUCTION

GE Americom has a strong interest in the instant proceeding.

GE Americom launched its first satellite in 1976 and currently has an operational fleet of twelve C- and Ku-band spacecraft, as well as an authorization for a system of Ka-band satellites and a pending application for a V-band system. GE Americom and its customers have invested billions of dollars in satellite facilities.

GE Americom's customers rely on those facilities to transmit video, voice and data services domestically and internationally.

GE Americom is a member of the Satellite Industry Association, and joins in the separate opposition being filed by the SIA today (the "SIA Opposition"). We write separately here to emphasize our concerns about the FWCC Petition and the devastating impact its proposed rule changes would have on the ability of satellite service customers to use spectrum efficiently.

In its Petition, the FWCC asserts that current Commission policies relating to spectrum that is shared between fixed satellite services ("FSS") and terrestrial microwave fixed services ("FS") unfairly favor FSS operators. Petition at 3. Specifically, the FWCC argues that FS licensees are subject to bandwidth

limitations and loading requirements that do not apply to FSS licensees. *Id.* at 4-5. The FWCC also complains that FSS earth stations can choose to accept interference in the course of coordinating an earth station, but can later refuse to waive the interference with respect to a subsequent applicant for a new or modified FS link. *Id.* at 7-8. The FWCC proposes that the Commission modify its policies to apply bandwidth restrictions to earth station licenses and to prohibit an earth station licensee from insisting on compliance with its interference objective if the licensee waived the objective in the initial coordination.

The FWCC Petition starts with the flawed assumption that because FSS and FS operators share spectrum, they should be subject to similar rules. In fact, the Commission's regulatory regimes for FSS and FS operations rationally reflect basic differences in the technical and economic characteristics of the services. The Commission's spectrum policies are designed to ensure that both FSS and FS providers have reasonable access to shared spectrum and incentives to use spectrum efficiently. Adoption of the rule changes suggested by the FWCC would impose unacceptable restrictions on the ability of FSS providers to respond to transponder or spacecraft failures and to meet changing demand for transmission services. It would also significantly increase the complexity of earth station licensing and coordination and the number of applications that would need to be filed and processed by the Commission. For these reasons, the FWCC's request for a change in Commission policies should be denied.

I. DECLARATORY RELIEF IS UNAVAILABLE

As a threshold matter, the FWCC's request for declaratory relief must be rejected. The FWCC asserts that the Commission can reverse its licensing procedures for earth stations through adoption of a declaratory ruling, without even conducting a notice and comment rulemaking. Petition at 9. In fact, however, the Commission's rules provide for declaratory rulings only to remove uncertainty or terminate a controversy. 47 C.F.R. § 1.2. Here, there is neither. The FWCC acknowledges that the earth station licensing policy it seeks to reverse has been consistently applied by the Commission for more than thirty years. See Petition at 5. Under these circumstances, there is no basis for seeking declaratory relief. The FWCC's request for a declaratory ruling should accordingly be rejected out of hand.

II. THE FWCC PETITION IGNORES FUNDAMENTAL DIFFERENCES BETWEEN SATELLITE AND TERRESTRIAL SERVICES

As SIA observes, the FWCC Petition simply identifies differences in the Commission's regulatory treatment of FS and FSS providers and concludes that those differences must represent unfair favoritism of FSS operators. SIA Opposition at 1-2. Nothing could be further from the truth. The Commission's policies for earth station licensing are strongly supported by the technical and economic realities of satellite operations, which differ from terrestrial services in important ways. The FWCC's proposal that the Commission blindly apply policies designed to address terrestrial operations to earth station licensing is simply irrational.

A. Flexibility Is Critical to Earth Station Licensing Policy

The Commission routinely licenses earth stations for an entire frequency band in order to retain flexibility for both the Commission and the operator to respond to the need to change satellite locations or transponder assignments. 1/ Such flexibility is critical to make efficient use of the multi-billion dollar investment in space segment and ground segment facilities used to provide satellite services.

Earth station licensing policy is driven in large part by the characteristics of the spacecraft with which earth stations communicate. Each individual satellite costs hundreds of millions of dollars and takes several years to construct and launch. Transponder rates must be set to recover the huge sunk costs of a spacecraft. As a result, users of satellite service have a very strong incentive to use bandwidth efficiently. 2/

Satellites are licensed to transmit and receive throughout the applicable bandwidth. The Commission's two-degree licensing requirement ensures efficient use of FSS spectrum by permitting full re-use of the bandwidth by each spacecraft. Each satellite must be coordinated with neighboring spacecraft, both

1/ See, e.g., *American Satellite Corp.*, 72 F.C.C.2d 750, 754 (1978); *RCA Global Communications, Inc.*, 56 F.C.C.2d 660, 694 n.32 (1975).

2/ The FWCC Petition suggests that because there are no Commission-imposed loading requirements for earth station licensees, an operator could use an entire band for a single voice-grade channel. Petition at 5. However, this absurd example assumes that the operator is completely indifferent to the cost of service.

U.S.- and foreign-licensed, resulting in constraints on the type and power level of service that can be offered on any given transponder.

Once a station is launched, its typical life span is fifteen years or more. However, if one or more transponders or the entire spacecraft malfunctions, repair is impossible. If a transponder fails and a spare transponder is not available, service can be restored only by re-routing transmissions to a different transponder or an entirely different spacecraft. This almost always requires a shift in the frequency band over which the service is carried.

The operational characteristics of satellites have substantial advantages. They permit spacecraft to provide coverage of tremendous areas, with costs that are almost completely distance insensitive. This makes satellites particularly suitable for responding to temporary increases in demand for transmission capacity as a result of special events such as the Olympics and natural disasters or other emergencies.

The flexibility inherent in the Commission's earth station licensing policies is essential in allowing these advantages to be realized. Earth station licensees require the ability to access the full range of spectrum available on a satellite so that they can quickly react to changes in demand and restore capacity in the event of an outage. It is impossible for an earth station operator to predict in advance when it will require new capacity, much less what specific frequencies will be available when that capacity is needed.

The Commission's policies are designed to increase an earth station licensee's options when it faces a sudden demand shift or service impairment. Those options will already be limited by the available transponder capacity for a given service and by restrictions imposed on the earth station as a result of coordinating with previous terrestrial licensees. There is absolutely no justification for the Commission to impose additional constraints on use of satellite spectrum as proposed by the FWCC.

B. Bandwidth Restrictions Are Appropriate for Terrestrial Service

In contrast, the bandwidth limitations imposed on terrestrial operators are appropriate given the characteristics of point-to-point microwave operations. Terrestrial service providers have a higher degree of predictability with respect to their spectrum requirements for at least two reasons. First, because of their point-to-point nature, terrestrial links are not particularly well suited to providing immediate additional capacity to meet unexpected increases in demand due to a special event or emergency situation. It is simply unlikely that the desired transmission route would happen to coincide with an existing terrestrial service route.

Second, terrestrial links should not require significant protection capacity to respond to service outages. If a terrestrial transmitter or receiver fails, transmission would be temporarily unavailable on any frequency. Thus, having protection channels licensed to the operator for that link would be irrelevant.

Instead, restoral would typically involve activating a back-up transceiver if available, not using new spectrum. If no back-up facility was in place, the operator would repair or replace the faulty equipment, an option that is not feasible when a satellite transponder or entire space station malfunctions.

Thus, the bandwidth and loading restrictions on terrestrial providers do not substantially burden their ability to provide economical service. However, there is no basis for extending such restrictions to the very different environment of satellite services.

III. THE COMMISSION'S SPECTRUM POLICIES DO NOT FAVOR EARTH STATIONS OVER TERRESTRIAL OPERATIONS

There is no factual basis for the FWCC's assertion that the Commission's licensing and coordination procedures are unfairly skewed in favor of earth station operators. As an initial matter, the Petition completely ignores the fact that the fixed service generally, and the microwave service specifically, has access to substantial bandwidth that is not shared with satellite operators. ^{3/} Thus, in large portions of the spectrum allocated to them, fixed microwave operators are free from the restrictions imposed by the need to coordinate with earth stations.

Even where coordination is required, it does not unfairly burden microwave operators. The fundamental principle of coordination is the first-come, first-served rule, which gives an existing licensee preference over subsequent

^{3/} See 47 C.F.R. § 101.101 (available spectrum for fixed microwave service includes thousands of megahertz of bandwidth that is not shared with satellite service).

applicants. This rule has traditionally favored terrestrial providers, because they can build out their facilities much faster than satellite operators.

The FWCC Petition argues that new microwave applicants must coordinate if they seek a site anywhere within 100 to 150 miles of an existing earth station. Petition at 6. However, this observation does not demonstrate unfairness: the coordination distance is the same whether it is a new earth station or a new microwave link that is being coordinated. Furthermore, the coordination zone is not an exclusion zone. Although coordination may be required over a sizable area surrounding a new earth station, in many cases coordination can be achieved, depending on the location and direction of the proposed microwave link. Thus, it is simply wrong to suggest that the siting of a single earth station can completely preclude any use of a shared frequency throughout the area where coordination is required.

The FWCC also objects to the fact that a licensed earth station operator can decline to accept interference from a new fixed station even if the operator accepted a greater level of interference when the earth station was originally coordinated. Instead, the FWCC suggests, an earth station operator should be bound to its original decision and prohibited from protecting itself against new sources of interference.

The FWCC's argument is fundamentally flawed because the FWCC ignores the basic fact that interference is additive. Thus, an earth station operator may be able to waive a given source of interference and still meet its link budget.

However, if another source of interference is added later, the combined effect may prevent the earth station operator from meeting its service objective. There is no basis for the Commission to mandate that an existing earth station operator accept interference from a new applicant that could impair the earth station's ability to meet customer requirements.

IV. THE NEW RULES PROPOSED BY THE FWCC WOULD SIGNIFICANTLY BURDEN EARTH STATION OPERATIONS

The FWCC requests that the Commission address the alleged inequity in the treatment of earth station and fixed service licensees by adopting new bandwidth restrictions and coordination provisions for earth station operators. There is no justification for the requirements the FWCC proposes. Adoption of these restrictions would severely limit the ability of earth station operators to meet customer demand and would exponentially increase the complexity and administrative burdens associated with earth station licensing and coordination.

The requirements FWCC suggests are both imprudent and impractical. As discussed above, flexibility in access to bandwidth is essential to permit an earth station operator to respond to service outages or short-term increases in demand. The FWCC suggests that earth station applicants should be licensed for twice the bandwidth for which they can demonstrate actual need, arguing that the extra bandwidth would permit "fast changeover to alternate transponders or satellites in case of space station failure or other such events." Petition at 8. In actuality, it is impossible for an earth station applicant to predict

in advance what frequencies it will need to use if its primary source of space segment fails. The frequency allowance the FWCC proposes would be useful only in the unlikely event that an earth station's licensed frequencies happened to coincide with available alternate capacity.

In all other cases, the FWCC's proposed rules would require the earth station licensee to attempt to coordinate new spectrum and apply to the Commission for authority to use that bandwidth. Obviously, this would substantially delay the licensee's ability to use new capacity as required. The end result would be to significantly increase the time during which services are disrupted following a transponder or spacecraft failure. In cases where increased capacity is needed to respond to a short-term event or emergency, the delay would completely preclude the earth station operator from meeting customer requirements.

The proposed rules would also impose significant additional costs on earth station operations. Every time an operator needed access to new spectrum, it would have to pay for a new coordination analysis. In addition, it would have to bear the costs of preparing and filing a modification application to the Commission. These new costs would ultimately be borne by satellite service users.

Furthermore, the FWCC does not explain how its proposed loading requirements would be applied to earth station operators. As we have demonstrated, satellite facilities often play an important role in providing excess capacity for news coverage of special events, emergency situations, and natural

disasters. The FWCC does not indicate whether capacity to cover such short-term needs would be counted toward meeting the deadline for bandwidth loading that it proposes. Any snapshot view of the loading of an individual earth station would be an inaccurate representation of the utilization of the facility.

The rules proposed by FWCC would also reverse the Commission's clear trend toward simplification of licensing and decreased reporting requirements. The Commission has engaged in substantial streamlining of the rules with respect to satellite services in recent years. ^{4/} FWCC's proposal would erase this progress and significantly add to the complexity of licensing and coordination. The result would be a substantial increase in the number of applications that would need to be filed by earth station providers and processed by the Commission. Under FWCC's proposal, an earth station licensee would have to re-apply each time it needed new capacity that was outside the bandwidth for which it was authorized. In addition, the proposal would require the Commission staff to evaluate an earth station applicant's initial showing of need for spectrum and whether the loading requirements were subsequently met.

The FWCC's proposals with respect to coordination are particularly complex. The FWCC argues that each time an earth station applicant waives interference from a terrestrial provider, it should also have to identify and quantify

^{4/} See, e.g., *Public Notice, "Commission Launches Earth Station Streamlining Initiative,"* DA 99-1259 (June 25, 1999); *Report and Order, Streamlining the Commission's Rules and Regulations for Satellite Application and Licensing Procedures,* 11 FCC Rcd 21581 (1996).

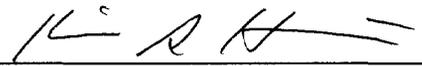
the factors that influenced the earth station applicant's waiver decision. These factors then would be used against the earth station operator in subsequent coordinations. This suggestion would significantly complicate the already difficult process of coordinating earth station and microwave facilities.

CONCLUSION

For the foregoing reasons, the Commission should dismiss the FWCC's request for declaratory relief and deny its petition for rulemaking. The Commission should maintain its existing policies for earth station licensing and coordination.

Respectfully submitted,

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July 12, 1999

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Opposition of GE American Communications, Inc. in RM-9649 was served by hand delivery (indicated by "**") or U.S. First Class mail, this 12th day of July, 1999 on:

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