The following is a copy of the petition for a Low Power AM broadcasting service which was filed by Mr. Frederick M. Baumgartner in June 2003:

Frederick M. Baumgartner
29555 CR 9
Elizabeth, Colorado 80107

kg0ki@arrl.net

303-646-9520

Seven pages of text follows. This copy is filed by:

Nickolaus E. Leggett
1432 Northgate Square, Apt. 2A
Reston, VA 20190-3748
(703) 709-0752
nleggett@earthlink.net

at the request of Mr. Baumgartner.

This petition is relevant to the Localism Task Force because it offers an option for significantly increased local broadcasting service.

Petition To The Federal Communications Commission
For Allocation of Secondary Broadcast Service on 1610-1700 kHz

INTRODUCTION

The Petitioner is in favor of a "neighborhood" Broadcasting service that has sufficient regulatory safeguards to assure compatible spectrum use, with a licensing and construction process that is not unnecessarily burdensome, and appropriate for the limited use of the spectrum proposed, by neighborhood or community entities with limited resources.

The Petitioner has gathered comments from several groups and individuals interested in LPAM, often contradictory, and has considered these comments, and focused on what the petitioner considers to be a practical and useful service. The petition represents the petitioner's and selected council's advice and opinion.

This petition seeks authorization of a service allocation in spectrum between 1610 and 1700 kHz. This spectrum has desirable propagation characteristics (which is to say limited), and the current FCC licensing scheme provides opportunities between licensed regional stations suitable for neighborhood operation. This petition proposes a secondary service that provides a minimum of interference to existing and proposed full-power stations, and maximum utility for neighborhoods and rural communities desiring a limited broadcasting outlet.

Further, the proposal asks for rules of use that encourage diversity, and community service, yet permit the new service enough coverage and flexible enough rules of use to be useful and self supporting.

TECHNICAL REQUIREMENTS

This petition requests specific technical rules, some distinctly different from current AM licensing:

1. This petition requests that all Low-Power-Amplitude-Modulation (LPAM) stations be licensed by the FCC.

2. The petitioner suggests that 100-Watt LPAM licenses should be granted only to applicants where the proposed location is 225-miles from an operating co-channel station, and more than 15-miles from any co-channel TIS (Traveler Information Service) transmitter, and 150-miles from any first-adjacent station, and 50-miles from any second-adjacent station; provided they are located in rural areas where there are not villages,

cities, or towns within 5-miles of the transmitter with a combined population of more than 20,000 in the 2000 census.

3. The petitioner suggests that 30-Watt LPAM licenses should be granted to applicants where the proposed location is 185-miles from an operating co-channel station, and more than 10-miles from any co-channel TIS service transmitter, and 110-miles from any first-adjacent station, and 50-miles from any second-adjacent station, or the in locations where there are villages, cities, or towns within 5-miles of the transmitter with a combined population of more than 20,000 in the 2000 census. 30-Watt LPAM licenses may request a waiver of mileage separation from the licensee of any short-spaced broadcast station or TIS service, and may pay reasonable fees or grant items or services of reasonable value for the granting of such a waiver. If the waiver is granted, the license should be approved.

4. The petitioner suggests that LPAM licenses should be granted without regard to the existence of, or interference potential to other LPAM stations. LPAM stations with an interference issue should cooperate to schedule operation or share transmission facilities in such a manner as to reduce interference. Any dispute should be resolved through a mediation process, or a voluntary frequency coordination effort. Communities should be permitted to mediate the use of LPAM stations within their boundaries, if they desire to establish such a function within the community's government.

5. The petitioner suggests that LPAM antennas should be of either a single conducting vertical element (no helical winding, loading coils or other devices) not to exceed 40-feet in height, nor more than 4-inches in diameter. Horizontal radiating elements may be used provided the combine length of the longest horizontal element plus any vertical element must not exceed 40-feet. The ground and antenna connections must be less than 2-feet in length from the antenna-tuning unit to the radiating element and ground connection.

6. The petitioner suggests that alternately, a center feed balanced feed wire dipole antenna, not to exceed 80-feet in length (40-feet on each end) may be used. A ground system may not be part of the RF radiation system of the dipole. No more than 20-feet of balanced feed line may be used to connect the dipole to the antenna-tuning unit.

7. The petitioner suggests that only type approved transmitters, with 50-ohm calibrated outputs for the licensed power level and frequency, certified by the provider to be within +/- 5% of all power and modulation specifications, and +/- 15 Hz of the carrier frequency specification should be permitted. Further, type approved transmitters should include an audio limiter that restrains modulation between the range of –95% and + 125%, and restrains sidebands to –10 dB at 10 kHz, and –20 dB at 15 kHz, and –55 dB for all spurious emissions outside of 20 kHz of the carrier.

8. The petitioner suggests that regulations should permit an external or internal passive antenna-matching network, external audio processing, and internal or external calibrated modulation monitoring and display.

9. The petitioner suggests that regulations should prohibit any active components, in particular amplification, between the type approved transmitter and antenna, and any directional, or antenna radiation enhancement device or construction designed to improve performance beyond the antenna provided for. Transmission line between the transmitter and antenna-tuning unit should not radiate. Placing the transmitter and antenna-tuning unit at the feed point of the antenna is recommended. Further, fencing (or other means) should protect the RF radiating components from access by unauthorized individuals (feed point voltages are quite high in these configurations).

10. The petitioner requests the assignment of call letters similar to broadcast stations, but recognizably different, i.e, "K1650ABC," or the use of N and or A prefixes as in "AABC."

11. The petitioner suggests that power levels remain the same day and night.

QUALIFIED LICENSEES

1. The petitioner suggests that a licensee may be an individual, organization or corporation.

2. The petitioner suggests that a licensed LPAM entity may not own, operate, program (with the exception of occasional guest appearances), or control in any way more than one LPAM.

3. The petitioner suggests that no licensed broadcast station, nor any entity with broadcast ownership, excluding minority stock ownership, may be the licensee or a party in the licensed entity operating an LPAM station.

4. The petitioner suggests LPAM entities be allowed to share time on a single transmitter, and be permitted to contribute resources to purchase, construct, and maintain a common LPAM transmitter facility. LPAM entities should not be permitted to share studios, staffs, or other resources.

5. The petitioner suggests that the LPAM license term should be for 5-years, and should be renewable.

6. The petitioner suggests technical operating parameters should be identical to broadcast stations, and include the option of utilizing AM-stereo or IBOC, operation, and all other ancillary services typical of AM broadcast stations.

7. The petitioner suggests that costs of licensing and the reasonable value of the spectrum be recovered by the FCC. A $100.00 yearly license fee, and 5% of all gross revenues from sales of commercial spots (not underwriting) over $10,000 a year is recommended.

CONTENT

This petition requests particular rules of use to encourage a legitimate and useful service, and serve a particular purpose. To that end, we propose the following rules of use and constraints:

1. The petitioner suggests that licensed LPAM stations should be required to provide no less than 8-hours of service nor permitted to broadcast more than 85-hours for each licensed entity, in a given week.

2. The petitioner suggests that licensed LPAM stations should be required to be manned by an on-the-air operator in a live manner no less than 60% of each operating entities weekly operating schedule. No more than 40% of the schedule should be unmanned, or automated, or long form recording, or the rebroadcasting of long form "network" programming.

3. The petitioner suggests that licensed LPAM stations should be required to have a working telephone within reach of the operator, able to be broadcast live. The telephone number and mailing address should be identified hourly.

4. The petitioner suggests that LAPM stations should be required to posses an EAS receiver, configured to automatically rebroadcast appropriate EAS messages live and instantly. The EAS equipment may be consumer, non-type accepted, and need not log events; but must be tested and certified as operational and actively in service, by the licensed entity.

5. The petitioner suggests that licensed LPAM stations should be allowed to broadcast commercials or sponsorship announcements, live and recorded religious, sports, political and community events. LPAM entities should be responsible for obtaining any rights, and paying any royalties required for the acquisition of program content as a condition of license.

6. The petitioner suggests that licensed LPAM stations should be required to keep program logs or 90-days of off-air recordings, and should be required to comply with all FCC content regulations, including any political requirements, prohibitions on obscenity, and public safety concerns.

7. The petitioner suggests that licensed LPAM stations should not be permitted to rebroadcast any broadcast station's live or delayed sustaining program for more than 15-percent of the LPAM's programming schedule in any given week, except when the rebroadcast programming provides information of a public safety nature. No broadcast station should be permitted to rebroadcast any LPAM's programming except when the rebroadcast programming provides information of a public safety nature, or serves an occasional and peculiar news interest.

8. The petitioner suggests that licensed LPAM stations should be limited to re-broadcast network provided programming for no more than 25-percent of the LPAM's weekly programming, except to provide for the occasional public safety concern.

9. The petitioner suggests that LPAMs be prohibited from accepting paid or other programming from broadcast stations, or any brokerage arrangements with any full-power broadcast station. However, LPAM's should be permitted to raise funds through sponsorship, paid commercials and programs.

SUMMARY

The proposed LPAM service is designed to provide an easy to license, and easy and economical to construct neighborhood broadcast facilities with approximately 1 to 5 miles of useful coverage. The reliance on mileage separations from full-power stations rather than calculated or measured signal levels simplifies the licensing process and serves the more reasonable purpose of providing ample protection to the service area of the full-power stations. The choice of type approved packaged transmission systems makes construction possible for most anyone, without engineering expense, and assures a uniform product. The choice of frequency is to take advantage of the shorter antenna requirements, shorter ground wave, and current licensing practices that results in widely spaced, largely omni-directional full-power stations, with limited areas of overlap.

The petitioner asks specifically for a service available to those who cannot afford to compete with the commercial conglomerates for stations, and who are unlikely to use tools of mass program distribution for profit.

The petitioner considers the value of small pockets of useful neighborhood and community service, in particular in rural and urban communities, to far outweigh any disadvantage the resulting zones of interference might create, where the petitioner contends no useful service now exists in any case.

The choice of antenna and power limits results in a fairly inefficient installation, but is practical to construct and inherently limits any interference to full-power stations. While daytime operation clearly presents no meaningful interference threat, the combined LPAM transmitters provide a theoretical (albeit insignificant) nighttime increase in interference to full-time stations. The petitioner contends that the power levels should remain fixed during nighttime operation, suggesting that the public good provided by LPAM exceeds the expected increase in noise level to the full-power stations. Given the increasing noise levels from electronic and electrical devices, the impact of LPAMs is arguably negligible.

It is the petitioner's contention that broadcasting ownership and control has become concentrated in large financially motivated enterprises and larger cities. The petitioners believe that community and or neighborhood voices are important and should be considered in spectrum allocation. The petitioner believes that the opportunity exists to

create an LPAM service, and the potential positive returns outweigh the potential costs and negatives.

The petitioner believe that such an LPAM service will permit community and neighborhood churches, schools, public service organizations, governmental, and private entities access to the airwaves.

The petitioner recognizes that there are opportunities for abuse. LPAM stations may interfere with each other, content may be weird or otherwise questionable, disputes over access times will exist. I consider these acceptable negatives. LPAM as proposed places responsibility on the neighborhoods and communities served, rather than the Federal government. As such, LPAM will work as well as the community or neighborhood it serves desires.

We also recognize that in the great scheme of things, LPAM is a minor effort with a potentially significant impact on the lives and well being of a significant number of the residents of this nation. We respectfully request that this proposal not be over-thought, nor any special interest group be permitted to pervert a proposal that involves very limited spectrum in a very limited manner.

INTERFERENCE ANALYSIS

The FCC recognizes an acceptable field intensity for Traveler Information Stations (TIS) operating in the proposed frequency range of 2.5 mV/m at one-mile. From the TIS experience, we know that the 49-foot TIS antenna, probably helically wound, and typical ground system, with 20-Watt transmitter is not a particularly efficient system. The purpose of this proposal was to define a system that could be built in most locations with a minimum of zoning considerations, and limited efficiency, similar to the TIS installation.

Following the research of Brown, Lewis, and Epstein, as reported by LaPort, the requested 27-degree antenna with 100, 50-degree radials, from the charts, results in 59 mV/m at 1 km for 100-Watts and at 30-Watts results in a field of 18 mV/m at 1 km.

In practice, the field strengths are certainly somewhere between the TIS experience, and the work by Brown, Lewis, and Epstein. Nonetheless, lets consider the 59 mV/m at 1 km to be the worst-case (from an interference perspective) analysis. This places the 0.025 mV/m contour at 45 km with the best ground conductivity of 30.

On the part of the protected station, lets assume the full 10 kW as permitted is in use, and a ground conductivity of 30 with a full ¼ wave antenna and proper ground system as permitted. This places the 0.5 mV/m protected contour at 142 km.

Given this, the minimum separation required for the co-channel is 187 km, or 117 miles. The request asks for 225 miles (363 km). Even a hundred LPAM stations all operating

225 miles from the primary station cannot produce any meaningful interference into the 0.5 mV/m contour of the primary station.

The proposal is tighter on adjacent channel interference.

Likewise, it is unlikely that any proposed antenna is capable of delivering a significant skywave signal.

The bottom line is that we have been unable to come up with any scenario where an LPAM built as prescribed in the proposed rules, and following the simple mileage separation scheme proposed, fails to protect the primary station well beyond any current standard. There is a considerable range for LPAM installations to be both useful as community services, without causing interference.

Respectfully submitted:

June 2003

Frederick M. Baumgartner
29555 CR 9
Elizabeth, Colorado 80107

kg0ki@arrl.net

303-646-9520