

Mitre Report Comments
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I am pleased to provide my comments on the Mitre Report concerning “Experimental Measurements of the Third-Adjacent-Channel Impacts of Low-Power FM Stations.” I realize that in order for any action to be taken as a result of this report, Congress must take action. Therefore, I am forwarding a copy of my comments directly to certain members of Congress as well as filing them here with the FCC.

I would like to start by saying that it appears at first glance that Mitre has done an excellent and thorough job of providing the congressionally-mandated tests, and I am in basic agreement with their results. However, as one digs deeper, there are some issues that still must be considered.

Background and History

I base my comments on the experiences of the North Fork Special Services District of Sundance, UT, and its attempt to get an LPFM license, or *any* type of licensed broadcast facility that can serve to provide a public access and safety forum. You must not believe that the delays in deciding what the rules should be has had no impact on potential applicants. We have made a broadcast facility an integral part of our emergency and evacuation planning, and the delays in the process of getting a license have impacted our ability to proceed with these plans.

Here is a history of our attempts to get a broadcast facility:

Prior to my arrival in Sundance: A number of arson fires are lit in the Sundance area over the summer. Robert Redford, who maintains a residence in Sundance, is very concerned about the fire safety issues in the canyon which has limited access/egress.

June, 1998: I move to Sundance.

October, 1998: A community meeting is held to discuss fire issues in the canyon. An ad-hoc advisory committee is formed to report to the North Fork Special Services District. I offer to help by looking into radio options.

December, 1998: I prepare and circulate an initial proposal suggesting working with a non-commercial radio station in Salt Lake City to install a translator. I contact the General Manager of the station, and he expresses a strong interest in working with us.

January, 1999: We discover that Sundance Resort is working with UDOT to install a Traveler’s Information Station on top of the ski mountain. Sundance expect that this will meet our emergency needs.

February, 1999: The General Manager that I spoke with resigns from the Salt Lake City station and is replaced by a new person. The station is still interested. I donate some money to the station to fund an engineering study.

March, 1999: The station’s consulting engineer takes signal strength measurements in Sundance to determine the feasibility of installing a translator. He notes that the project would be cheaper and easier if the translator freeze then in effect was lifted.

April, 1999: Robert Redford writes a letter to then-Chairman Kennard and members of the Senate asking that the translator freeze be lifted.

May, 1999: Utah's Senator Robert F. Bennett responds to Mr. Redford's letter with his own letter to Chairman Kennard, saying in part "I'm sure there is some kind of justification in general, national terms, but local situations like the one Mr. Redford describes are completely worthy of prompt action."

July, 1999: The General Manager reports that the engineer has been given the go-ahead to start the translator application.

November, 1999: The Salt Lake City station sets up a meeting with Sundance Resort to determine the possibility of locating the translator at the top of the ski mountain.

January, 2000: The FCC issues a Report and Order creating a Low Power FM (LPFM) radio service. We decide that this better meets our needs than a translator, since it can be used to disseminate non-emergency information whereas a translator can only be taken over in the event of an emergency. We decide to pursue this option as well as continuing to pursue the existing options, until such time as we have a working solution in place.

March, 2000: The General Manager from the Salt Lake City station finally meets with Sundance Resort. Sundance Resort agrees in principle to allow the translator to be located (at no charge) at the top of the ski mountain, which is on Sundance Resort property. The location is a prime location for the translator, and will allow the station to send their signal to Heber City, which they currently don't cover.

April, 2000: The General Manager asks for \$20,000 for the translator. I respond that the fundraising has to be a 3-way effort involving the station, the Sundance community, and Heber, since all will benefit. We receive no response.

May, 2000: We file an application for a Low Power FM license. We meet all the requirements at the time of our initial filing.

October, 2000: I offer to purchase and donate a translator to the Salt Lake City station and help with the installation if they will take care of the licensing. They never respond.

December, 2000: Congress attaches an amendment to the Commerce, Justice, State department appropriations bill that requires the FCC to put in place third-adjacent channel protection for LPFM stations. Our application no longer meets all requirements and is shunted into "Appendix B" by this action.

All of 2001: We're waiting for the FCC and/or Congress to take some action in the LPFM matter. We're also waiting for UDOT to get its transmitter working to see if it will meet our needs.

Sometime in 2002: The UDOT TIS station is finally on the air. It's a 10watt AM station. The signal does not reliably cover Sundance, or UDOT's intended coverage area of Provo Canyon. Part of the issue (besides the low operating power) seems to be that it's hard to get a good ground on top of a mountain. We try to receive it with a battery-powered TFT Home Alert radio (which we plan to install in all homes in Sundance to provide automatic monitoring for emergency conditions via EAS) from a distance of approximately 1.5 miles, and even though we can see the transmit antenna, we cannot receive its signal.

October, 2002: The FCC opens a remedial filing window for applications in "Appendix B." We file an amended LPFM application, requesting a waiver of the third-adjacent rule based on the fact that Sundance is what engineers refer to as a "white area" - an area where no adequate FM

broadcast signals exist despite being only 40 miles from a major media market (Salt Lake City).

March, 2003: The FCC opens a filing window for translator applications in the commercial part of the band. We do not file, as our LPFM application is still pending and the LPFM rules state that we can only have one or the other. Since the LPFM license is our preferred solution, we don't want to jeopardize our application by filing for a translator at this time.

August, 2003: The FCC dismisses our LPFM application without even giving consideration to our waiver request.

September, 2003: A controlled burn by the Forest Service at Cascade Springs (approximately 5 ½ miles away from Sundance) burns out of control. Sundance is blanketed by a thick cloud of smoke, but we have no way to determine if we are in any danger. The story is picked up by the Salt Lake City media when the smoke descends into the Salt Lake and Utah valleys on the other side of the mountains. However, they report that the burn is "near Heber City" and as such it poses no direct threat to the major population areas. This is not the only fire that has burned near the Sundance area in the time since we started looking into our broadcast options. Another notable fire was in the South Fork of Provo Canyon (Sundance is in the North Fork) in July, 2000, and the flames could be seen from Aspen Grove just above Sundance.

I will be very blunt here: The process of getting a broadcast license for a small community like Sundance stinks. The delays, which I believe are largely for political reasons, are putting people's lives and property at risk. That the full-power broadcasters lobbied Congress to delay the adoption of LPFM, requiring a study to show what broadcast engineers and the FCC already know borders on criminal in my mind. That the FCC refused even to consider our waiver request is, in my opinion, inexcusable. I was told by an FCC staff member that filing a Petition for Reconsideration to attempt to force the FCC to evaluate our waiver request would be a waste of time and effort because no waiver is going to be granted "in the current political climate."

Terrain

One rather serious deficiency in the Mitre Report is that it does not address mountainous terrain. They describe Benicia as mountainous but as someone who grew up in the San Francisco Bay Area and has a brother who lives in Benicia, I can attest that Benicia is better described as hilly terrain than mountainous. There is no comparison between the hills surrounding Benicia and the Rocky Mountain states which include Utah. The Rocky Mountain states tend to use lots of translators, as there are many small communities nestled in canyons that cannot receive direct signals from even nearby transmitters. California does have real mountains, but they are mostly in the eastern and far northern parts of the state. The coastal hills do play tricks with reception. For example, my mother who lives less than 20 miles from San Francisco, and some 70 miles from Sacramento, cannot receive San Francisco television station over the air, but can receive Sacramento stations. These effects are due more to multipath than terrain masking in the Bay Area. The non-mountainous nature of the Benicia terrain is demonstrated by Figures B-65 through B-76 of the Mitre Report. Only locations 6 and 8 show any obstruction of the signal path, and in both cases it is very minor.

On the other hand, Sundance, Utah, where I currently reside, is separated from Salt Lake City by the Wasatch mountain range. The valley floor is at approximately 4500 feet above sea level, and

Mount Timpanogas, which is directly in the path of broadcast signals from Salt Lake City, towers to nearly 12,000 feet above sea level - 7,500 feet above the valley floor. As we demonstrated in our waiver request, this completely blocks FM broadcast signals from Salt Lake City from reaching Sundance. No station even provided a signal that meets the level permitted by Part 15 devices (250 μ V/m or 48 dBu) into our canyon.

I believe that Congress intended the study to include true mountainous terrain and the effects of terrain masking as it relates to FPFM station protection. I have been in contact with Senator Robert Bennett's office, and they have indicated to me that something needs to be done for areas like Sundance. Had Mitre chosen a true mountainous area (and they would have had to have been given the opportunity to do so in the list of possible locations supplied by the FCC), they would have found that there are cases where a full power station does not provide a 60 dBu signal to certain areas that may be within its implicit coverage area. This brings up the question of how we define interference in situations like this. Stations, depending on their class of operation, are protected to a certain contour. But what obligation do these stations have to provide that service level within the area? And if they choose not to provide a protected-level signal, can they complain of interference? The Commission does explicitly recognize that "a mountain ridge may indicate the practical limit of service for a station" in 47CFR73.313(e). I conclude from this that: (1) full-power stations are aware that there are area they do not cover, (2) they have no intention of covering those areas, as it would not be cost-effective for them to do so, and (3) by choosing not to cover these areas, they give up their "ownership" of them. However, I would like the Commission to make explicit what its position is in this matter.

Scope

The results of the Mitre Report, if adopted by the FCC, may allow for additional full-power stations as well. I have not done any kind of study to see what, if any, impact this could have on full-power stations. I am certain though that if it does allow for a significant number of potential new full-power stations, that others will argue that the rules for full-power applications should be amended at the same time as the LPFM rules are modified. I expect they will also argue that LPFMs should not be given any preference to full-power stations in that case, and that no LPFM applications based on the loosened Mitre spacings should be allowed before the full-power applicants have had a chance to grab whatever spectrum they can. This goes back to the argument that larger, more powerful stations are more "efficient" in that they cover larger areas and populations. I must disagree with any such attempts to weaken LPFM any further. Since the Mitre Report was commissioned to address the LPFM rules, I think that any action by the Commission should first modify the LPFM rules and reinstate the Appendix B applications that were filed legally under the original rules but dismissed when they could not meet the third-adjacent requirements. After the Appendix B applications have been reevaluated under the new rules, and ONLY after they have been given a chance under the new rules, should the Commission consider changing the rules for full-power stations or opening a new filing window for potential LPFM applicants. I believe it is very important that things be done in this order, as the original applicants (who, again, met all requirements on initial application) should not be made to suffer any more as a result of the delays in the process. The LPFM issue has gained a bit of visibility in the press of late, and it's possible (and very likely in my opinion) that if the Commission opened a new LPFM filing window and required prior applicants to start over from scratch, that there would be other groups that would file mutually exclusive applications where

none existed before, and the original applicants would be harmed. At a minimum, if the Commission decides to open a new filing window, Appendix B applicants should receive an extra point upon re-filing to resolve mutually exclusive applications.

Another potential argument that others might make is that the Mitre study did not use a sufficient number of receivers, and that more study is needed. I disagree with this argument, as the Mitre study really just reinforced what engineers already knew (and the FCC engineers showed in their own tests in the original go-round on this) - that third-adjacent interference is not really an issue.

But if there are such arguments, I suggest the following compromise: reinstate the Appendix B applications that were dismissed because they did not meet third-adjacent requirements and reevaluate them under the Mitre-proposed spacing rules. Grant those stations licenses that meet the new rules, and use those stations as the additional study. If after a certain period of time (say a year), they have proven not to cause interference, then go ahead and open up a new LPFM filing window. If they DO cause objectionable interference, either require them to operate at a lower power level that does not cause interference, shut them down, or let them stay on the air until their initial licenses expire and then do not renew the license.

Antenna Height

The California and Connecticut sites used a broadcast antenna height of 10 and 30 meters above ground level rather than above average terrain. Certainly a greater antenna height would increase coverage of the LPFM station, but would it also increase the potential for interference with the full-power station? I think not. Since LP100 stations are restricted to 100W ERP for an antenna height less than 30 meters above average terrain, the operating power was not increased in the test. Yet the tests showed that interference only occurred within a small area surrounding the transmitter. Raising the antenna height would actually move the antenna farther away from the receiver within this area but would not increase the size of the area. The LPFM signal would travel further, since raising it get it higher above obstructions, but the signal level to the outlying areas would be well below that required to cause interference. I believe Mitre covers this in section 5.1.3 of the report, but I could see other commenters objecting to the “deficiency” in the tests, so it bears mention here.

Interference - How Much Is Too Much?

The Mitre Report does show that some interference could occur if the proposed spacings are adopted. I’m sure there will be those who argue that any additional interference is unacceptable, although it is difficult to imagine that anyone could argue that the Mitre study showed that any *harmful* interference (the criterion specified by Congress) occurs. In any case, I believe that the Commission has found in the past that some interference is OK if the public interest is served. The public interest should not, of course, be equated to corporate profits, or we would have to find that pigging out on Krispy Kreme donuts is in the public interest as it increases the profits of both the donut maker, its suppliers and the health care workers who must treat the effects of eating too many donuts. And that’s not to mention the drug companies that make cholesterol-lowering drugs and the tax revenues as well. No, in this case I think we have to look at the significant public benefits of increased public safety, community building, improved localism, and giving voice to the voiceless that LPFM provides.

Additional Comments - First Service

LPFM is designed to give communities their own voice. In some cases, communities (such as Sundance) do not currently have any licensed broadcast service. These are typically small communities that are in the shadow of a larger community. I believe that such communities should be given preference in license allocation, and thus request that the Commission consider modifying the point system used to resolve mutually-exclusive applications to provide an extra point for a (geographic) community that is not currently served. Because of the spacing requirements, another town ten or more miles away which already has existing stations or translators serving it could end up filing a mutually-exclusive application that could prevent the unserved community from getting the full benefit of having its own station.

Summary: Specific recommendations

I suggest that the Commission take the following actions in response to the Mitre study:

1. Adopt the separations and transmitter emission requirements (assuming the latter will not result in delays as a result of requiring redesign and/or recertification of equipment) proposed in the Mitre Report for LPFM stations.
2. Reinstate Appendix B applications & consider them under these new rules.
3. Allow an extra point for first service in a community.
4. Clarify terrain issues.

Only after doing the above should the Commission consider modifying full-power rules to take into account the results of the Mitre study.

In addition to the above, I believe the Commission should be willing to consider waiver requests for LPFM licenses. I understand the Commission's desire to keep the process simple and not get bogged down evaluating a great many waiver requests, but it could at least provide some guidelines that a waiver request must meet in order to be considered. This action needs to be taken regardless of whether the third-adjacent spacing recommendations of the Mitre Report are adopted.

Finally, I suggest that a streamlined process for first-service applications for either LPFM or translator stations (and I believe the applying community should be able to choose which solution is more appropriate to its needs) needs to be put in place. Five years is too long for a community to wait for a license. With proper use of technology and appropriate rules in place, I believe the process could be mostly automated, and this period could be reduced to the order of weeks rather than years.

Time is of the essence in resolving this matter. We have been trying for five years to get a solution for our situation, and have felt lucky that no incidents have occurred in that time. But as I noted previously, lives and property are at risk, a risk level which can be reduced by a solution that allows us a broadcast facility.