

From: Juan Torres-Rosario

To: Doug Young

Date: June 29, 2007

Subject: Request for Info - File #0043-EX-PL-2006

Message:

Mr Tony Serafini,

I have discussed the option of frequency exclusion in our radar system with my supervisors and their response is that we cannot operate without this frequency band. The frequency band 9300-9500 MHz is an integral part of most of our radar modes in our multi-mode radar and deleting this band would invalidate our testing. We cannot just manually switch out this band, and in many cases we are using wideband modes that would be completely distorted without this band. Having said that, and understanding what you have requested, we have provided additional input that we hope will alleviate the Coast Guard concerns.

First of all, very similar radars have been operated from this same location, due to Navy waivers or earlier licenses, without incident. This radar is only about 2-3 dB more powerful due to its larger antenna. From previous discussion with the FCC engineers that have been working with our request, I understand that the Coast Guard objection is due to our high ERP. We have reevaluated our ERP computation in order to more accurately account for our rooftop test environment. The original estimate was based on our aircraft installed performance and was considered a very conservative estimate. However, considering your concerns it appears to have been an overly conservative estimate. There is significantly more loss in our rooftop test environment due to the use of additional waveguide and additional bends in that waveguide for our rooftop laboratory. This reduces our ERP from 33 MW to 24 MW. If this power level is still an issue, please consider that we are located 11 km away from the south shore (the coastline). This means that power received at the coastline from our radar is equivalent to a radar 80 dB weaker located at 1 meter from that coastline. Also, the radar modes that transmit in the 9300-9500 MHz region are wideband modes, and transmit within this band at most 38% of the time. Thus, our wideband mode with the highest average power of 400 Watts would only radiate an average power of 152 Watts in the 9300-9500 MHz frequency band. Additionally, our pulsed radar employs PRI staggering and frequency agility, which will tend to decrease the possibility of interference with any radar system that may be located in the area. Similarly, it is a scanning radar with low sidelobes and a narrow mainlobe, resulting in a very low probability of interference. Finally, if this power level is still an issue, are there any other alternatives or restrictions that can be applied to our license besides frequency exclusion such that the Coast Guard may remove their objection and we may receive our experimental license?

Sincerely,
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