

Allocation Narrative

This instant translator application clears all allocation constraints of Section 74.1204. On first glance, it appears that interference is created to KRTR-FM, Kailua, HI and K244EF (CP) on Channel 246, Honolulu. However, Section 74.1204(d) instructs us:

“In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable.”

Clearance to KRTR-FM

KRTR-FM (BLH-19971010KF) has a center of radiation of 771 M AMS and 100 KW ERP. KRTR-FM places a 96.2 dBu protected signal over the proposed translator site. Adding the 40 dBu U/D ratio to the 96.2 dBu signal produces an interfering contour of 136.2 dBu.

Through the use of the proposed Elevation Radiation Pattern from the antenna manufacturer and graphing the actual interfering contour, we will prove that the interference area never touches the top residential floor of Franklin Towers and therefore there is no population being affected in this small interference area.

The applicant consulted Shively, the manufacturer of the 6812B 3-bay, 0.5 wave spaced antenna that is being proposed. The Elevation Pattern for this antenna is attached. This includes a relative field for each degree of elevation. Knowing the relative field at each degree of elevation allows us to calculate the power at each degree of elevation. From that, the distance to the 136.2 dBu interfering contour was calculated. The Excel spreadsheet program was instrumental in graphing the interfering contour. Using trigonometry, points on the 136.2 interfering contour were transformed to point values that could be graphed on an X,Y axis. X is the distance from the antenna and Y is the height above the top residential floor.

The point that places the 136.2 dBu interfering signal closest to the top residential floor of Franklin Towers occurs between 11.3 and 8.8 meters from the tower. Here, the 136.2 dBu contour is 10.1 meters (33.1 feet) in the air. This area is generated by the 20 and 25 degree azimuth of the antenna with a relative field of 0.699 and 0.565 respectively.

Clearance to K244EF (CP) (On Channel 246)

K244EF CP (On Channel 246) (BPFT-20101001AHE) has a center of radiation of 622 M AMSL and 0.25 KW ERP. This translator CP will place a 77.9 dBu protected signal over the proposed Franklin Towers site. Adding the 40 dBu U/D ratio to the 77.9 dBu signal produces an interfering contour of 117.9 dBu.

Through the use of the proposed Elevation Radiation Pattern from the antenna manufacturer and graphing the actual interfering contour, we will prove that the interference area never touches the ground and furthermore, never touches the top residential floor of Franklin Towers and therefore there is no population being affected in this interference area.

The applicant consulted Shively, the manufacturer of the 6812B 3-bay antenna 0.5 wave spaced antenna that is being proposed. The Elevation Pattern for this antenna is attached. This includes a relative field for each degree of elevation. Knowing the relative field at each degree of elevation allows us to calculate the power at each degree of elevation. From that, the distance to the 117.9 dBu interfering contour was calculated. The Excel spreadsheet program was instrumental in graphing the interfering contour. Using trigonometry, points on the 117.9 interfering contour were transformed to point values that could be graphed on an X,Y axis. X is the distance from the antenna and Y is the height above the top residential floor.

The point that places the 117.9 dBu interfering signal closest to the top residential floor of Franklin Towers is 9.2 meters from the tower. Here, the 117.9 dBu contour is 5.0 meters (16.4 feet) in the air over the top floor. This area is generated by the 45 degree azimuth of the antenna with a relative field of 0.092. The 117.9 interfering contour does extend lower past the level of the top residential floor but this is in free space past the building. The farthest the building extends in any direction from the tower is 11.88 meters. Past 11.88 meters is free space.

In conclusion, based on the foregoing explanation and related exhibits showing that no persons will receive interference because the interfering contour never touches the residents of Franklin Towers, it is thought this application is in compliance with Section 74.1204 using Section 74.1204(d).