RF Exposure Requirements

RF Exposure Requirements: **§1.1307(b)(1):** Requirements.

(i) With respect to the limits on human exposure to RF provided in § 1.1310 of this chapter, applicants to the Commission for the grant or modification of construction permits, licenses or renewals thereof, temporary authorities, equipment authorizations, or any other authorizations for radiofrequency sources must either:

(A) Determine that they qualify for an exemption pursuant to §1.1307(b)(3);

(B) Prepare an evaluation of the human exposure to RF radiation pursuant to §1.1310 and include in the application a statement confirming compliance with the limits in § 1.1310; or

(C) Prepare an Environmental Assessment if those RF sources would cause human exposure to levels of RF radiation in excess of the limits in §1.1310.

RF Radiation Exposure Limit: **§1.1310:** As specified in this section, the Maximum Permissible Exposure (MPE) Limit shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in Sec. 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of Sec. 2.1093 of this chapter.

Results:

Max ERP = 44.8 dBm =~ 30W
S_{limit} @ 911.25 MHz = 0.6075 mW/cm^2

$$S = \frac{Max\ ERP}{4\pi r^2}, \qquad [\frac{mW}{cm^2}]$$

Where Max ERP is the highest available power accounting for tuneup tolerance. (mW),
And r is separataion distance (cm).

$$r = \sqrt{\frac{Max\ ERP}{4\pi S}}, \qquad [cm]$$

r = √(30000/(4*3.1416*0.6075)) = 62.68 cm =~ 63cm

The calculated safe distance is 63 cm.