Human Exposure to Radiofrequency Electromagnetic Field
&
Section 106 Compliance
(Environmental)

A study has been made to determine whether this proposal is in compliance with 47 C.F.R. 1.1307 of the Commission's rules and with OET Bulletin #65, dated August 1997, regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. Educational Media Foundation ("EMF"), Licensee of KXAI, Channel 279C1, Facility ID No. 7084, licensed to Refugio, Texas. EMF is proposing to modify KXAI to operate on Channel 279A, Balcones Heights, Texas. The proposed transmitting site is an existing tower 129.5 meters in overall height above ground. This tower is registered with the FCC's Antenna Structure Registration (ASR) # 1223934. The tower is located at 29° 28' 43" N ~ 98° 35' 11" W (NAD 27). The proposed antenna is a side mounted ERI LP-2E-HW half wave circularly polarized antenna. KXAI will operate with 4.3 kilowatts ERP at 100 meters above ground level and 98 meters HAAT. The use of existing transmitting locations has been characterized as being environmentally preferable by the Commission, according to Note 1 of § 1.1306 of the FCC Rules. The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the Commission's OET Bulletin Number 65. The ERI antenna is included in the OET's updated FM Model Program under EPA Type 3: Opposed U dipole. Using the EPA Type 3 selection, the maximum calculated signal density near the tower at two meters above ground level attributable to the proposed KXAI facility is 2.66 μW/cm^2 at 200.25 meters, which is 1.33 percent of the general population/uncontrolled maximum permitted exposure limit.

This is well below the five percent threshold limit described in 1.1307(b) regarding sites with multiple emitters, which excludes applicant from responsibility for taking any corrective action in areas where the proposal's contribution is less than five percent.

The applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

FM Model

The FM Model calculator determines the potential exposure from radiofrequency (RF) electromagnetic fields produced by FM broadcast station antennas at ground level. The FM Model software was originally developed by the FCC in 1997 as a standalone executable program and this improved version provides more precise predictions and runs via a JavaScript enabled web browser. The FM Model is originally based on measured data published in 1985 by the EPA (http://nepis.epa.gov/Exe/ZyNET.exe/2000ED2W.TXT?
ZyActionD=ZyDocument&Client=EPA&Index=1981+Thru+1985&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A\zyfiles\Index%20Data\81thru85\Txt\00000003\2000ED2W.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h|-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=p|f&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL).   ▼ Show More....
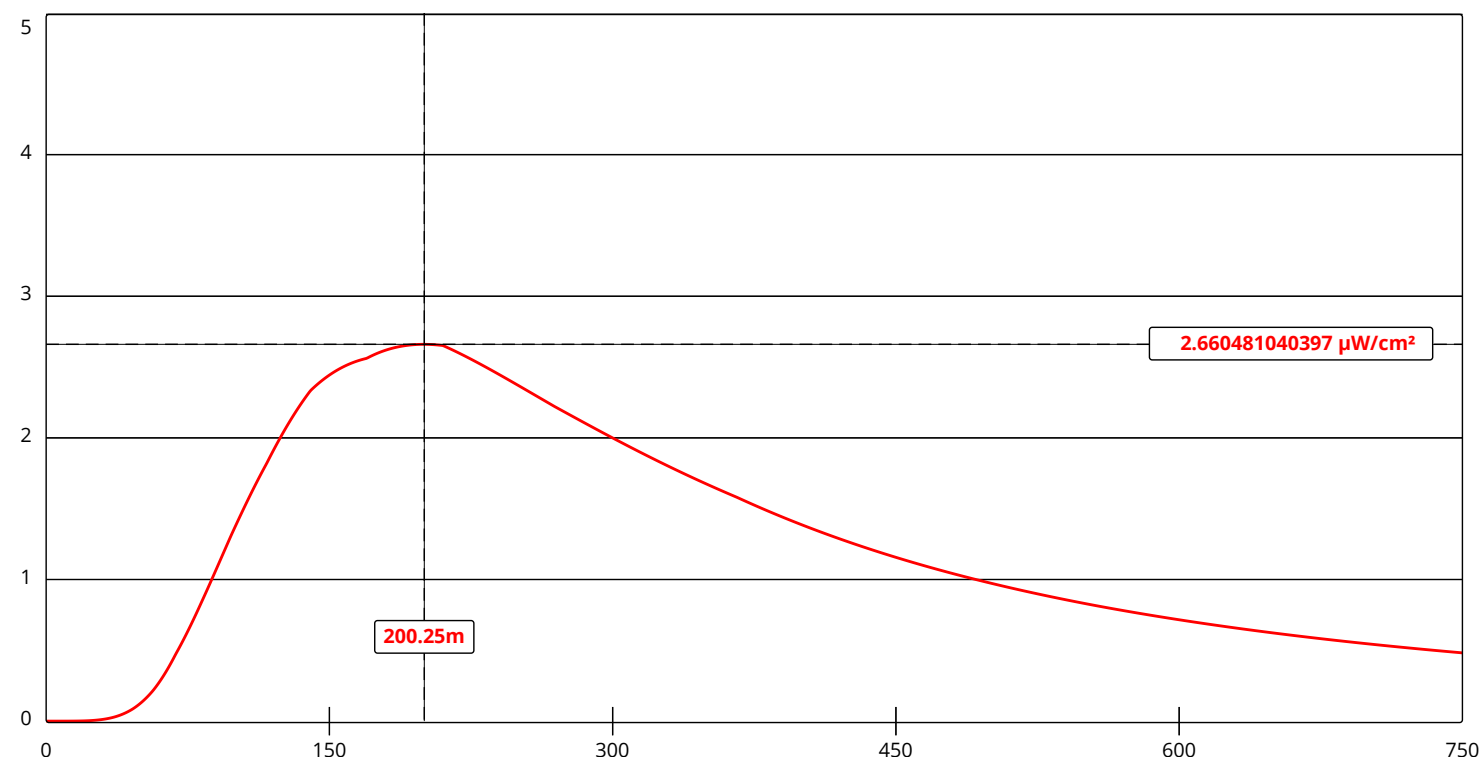
View Tabular Results +

Channel Selection	Channel 279 (103.7 MHz) ▼		
Antenna Type +	EPA Type 3: Opposed U Dipole ▼		
Height (m)	100	Distance (m)	750
ERP-H (W)	4300	ERP-V (W)	4300
Num of Elements	2	Element Spacing (λ)	0.5
Num of Points	1000		Apply