

Engineering Statement in support of  
FCC FORM 349  
APPLICATION FOR AUTHORITY TO  
CONSTRUCT OR MAKE CHANGES  
IN AN FM TRANSLATOR  
(For Minor Change to a Licensed Facility)  
K255AQ 255FX, Facility ID 144136

**Introduction:**

This is an application by Rocket Radio Corporation (the Applicant) for a minor change to K255AQ 255FX, Facility ID 144136.

The applicant proposes the following changes:

- Increase ERP from 0.010 kW to 0.250 kW.
- Change the antenna to a Scala CL-FM, horizontally polarized, rotated to 145°.
- Change antenna height to 15 meters AGL.
- Change the translator service to Fill-In of KNRJ, Payson, AZ, 266 C1, Facility ID 55425.

The proposed changes are minor since there is no change in frequency or coordinates.

The proposal's 100dBu interfering contour is contained within the service contour of third-adjacent station KKFR. There are no occupied buildings, paved roads or population within the area of overlap.

This application was prepared using FCC 30-arc-second terrain data.

Joseph M. DiPietro, P.E.  
RFEngineers, Inc.  
April 2011

### Section III-A Engineering Data:

#### Tech Box Data:

1. Channel: 255
2. Primary Station: Facility ID 55425, Callsign KNRJ, Payson, Arizona Channel 266C1
3. Delivery Method: Off Air
4. Antenna Location Coordinates: 34° 25' 51" N (NAD-27)  
111° 30' 13" W
5. Antenna Structure Registration Number: N/A
6. Antenna Location Site Elevation: 2104 meters AMSL
7. Overall Tower Height: 59 meters AGL
8. Height of Radiation Center: 15 meters (H) - meters (V) AGL
9. Effective Radiated Power: 0.250 kW (H) - kW (V)
10. Transmitting Antenna: Standard Pattern Directional, SCA CL-FM
11. Booster or Fill-in within protected contour: Yes.
12. Interference: No. Overlap with KKFR
  - a) Contour Overlap Requirements: Checked.
  - b) TV Channel 6 Protection: Not Checked.
13. Unattended Operation: Yes
14. Multiple Translators: Yes
15. NEPA, Yes.
  - a) Operation of this facility will not have a significant environmental impact. The existing site is located on a remote mountain top. To the best knowledge of the Applicant:
    1. The structure is not located in an officially designated wilderness area or wildlife preserve, nor does it threaten the existence or habitat of endangered species.
    2. The proposed changes will not affect districts, sites, buildings, structures or objects significant in American history, architecture, engineering or culture that are listed in the National Register of Historic Places, or eligible for listing.
    3. The site is not located in a flood plain. Nothing is proposed that would require significant changes in surface features such as wetland fill, deforestation or water diversion.
    4. The existing structure does not require markings or lights in accordance with FAA requirements.
  - b) The Applicant will cooperate with all site users, managers and owners with regard to the cessation of operation or the reduction of operating power, whenever it is necessary to comply with the FCC Regulations and Guidelines on Human Exposure to Non-Ionizing RF Radiation.
  - c) The proposed site is in compliance with permissible exposure requirements based on calculations using RF Worksheet #1. Based on this information the proposed facility is in compliance with 47 C.R.R. Section 1.1306 with regards to radio-frequency electromagnetic exposure.

## Antenna Pattern (Azimuth)

**rfSoftware, Inc.**

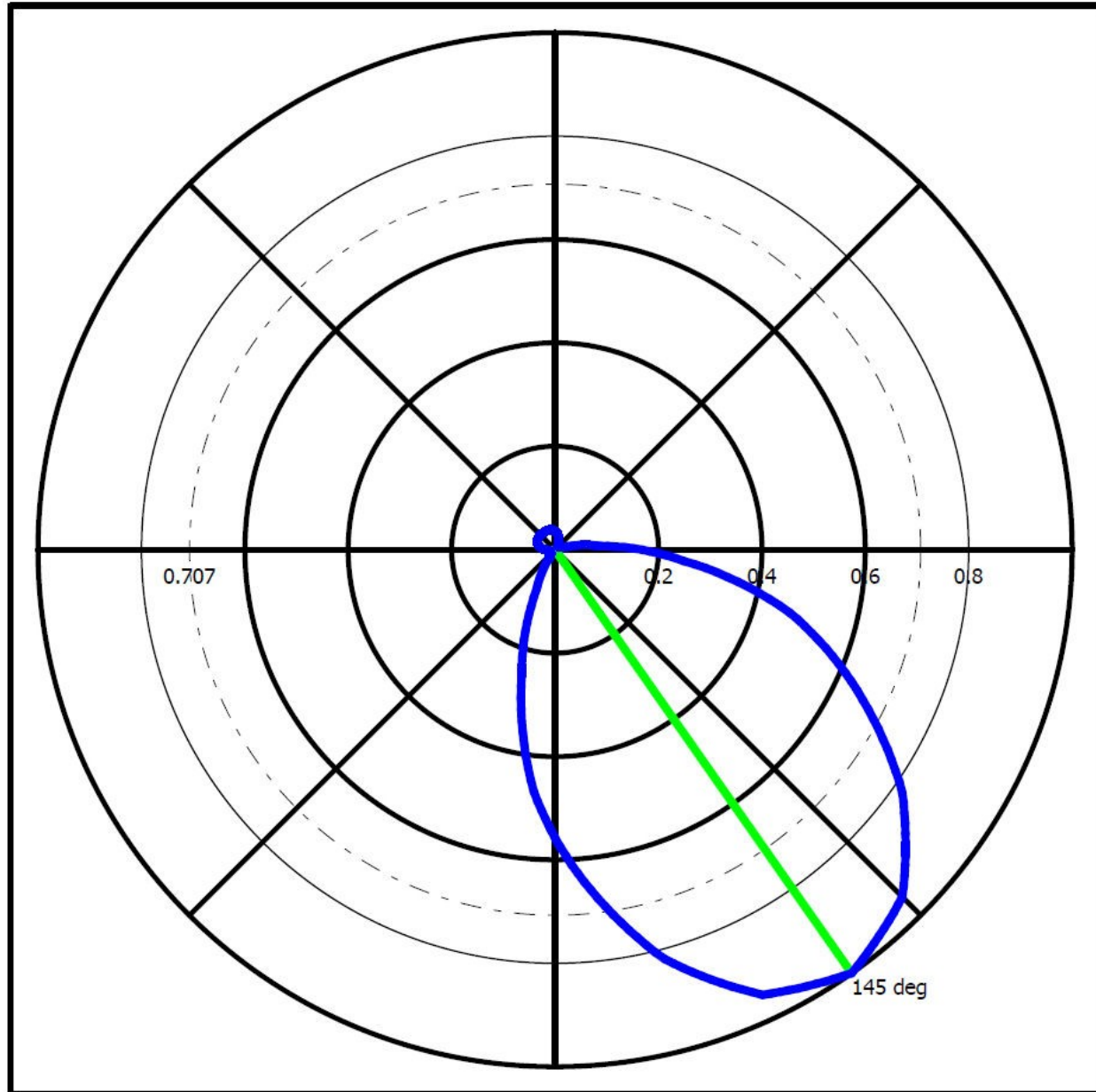
Job: K255AQ\_07Apr2011.fmj

Description: CL-FM HRM FCC ID 16150

rfInvestigator Version 3.5.14

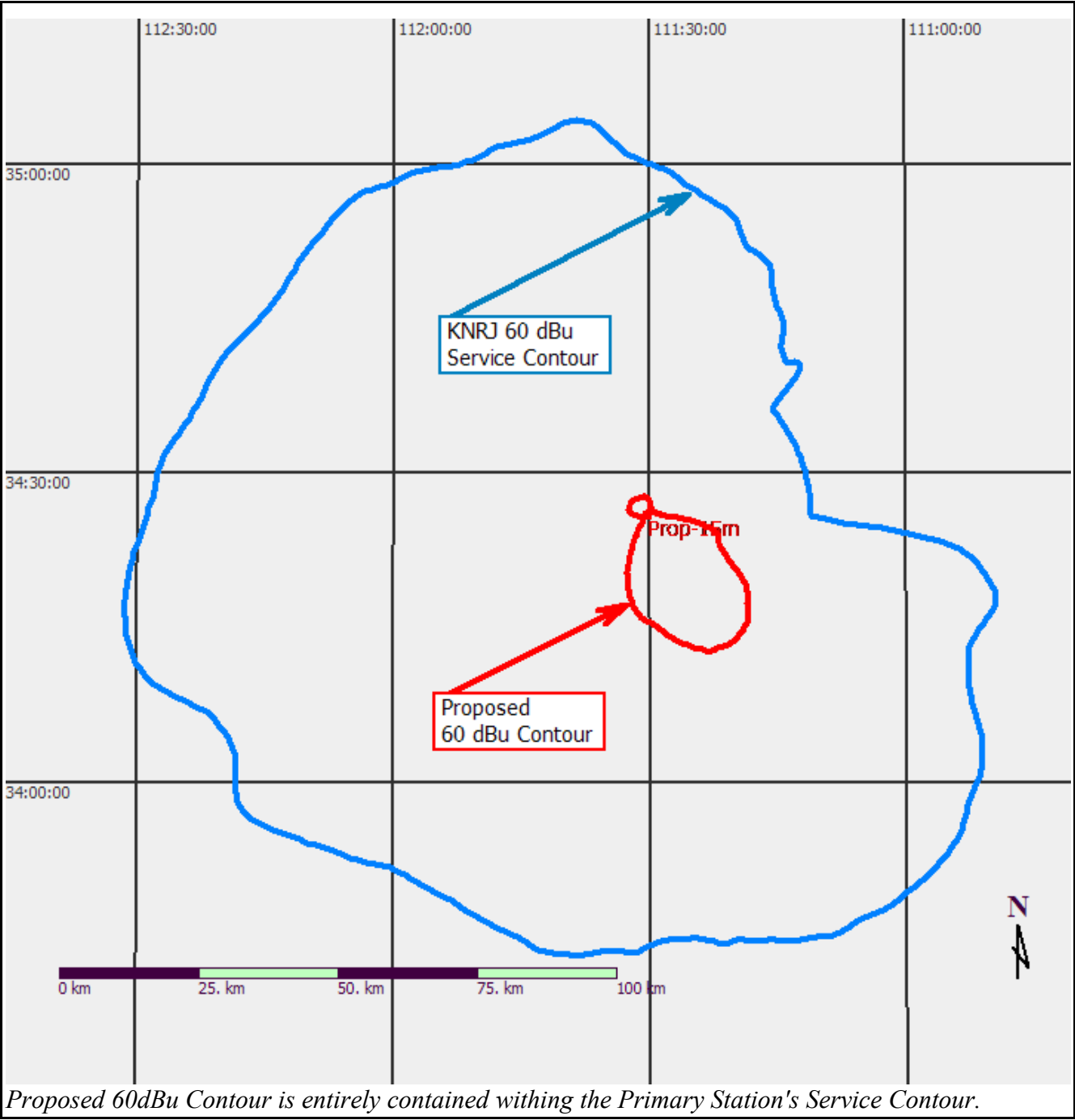
Pattern RMS = 0.392

Date: 4/12/2011 8:19:43 AM

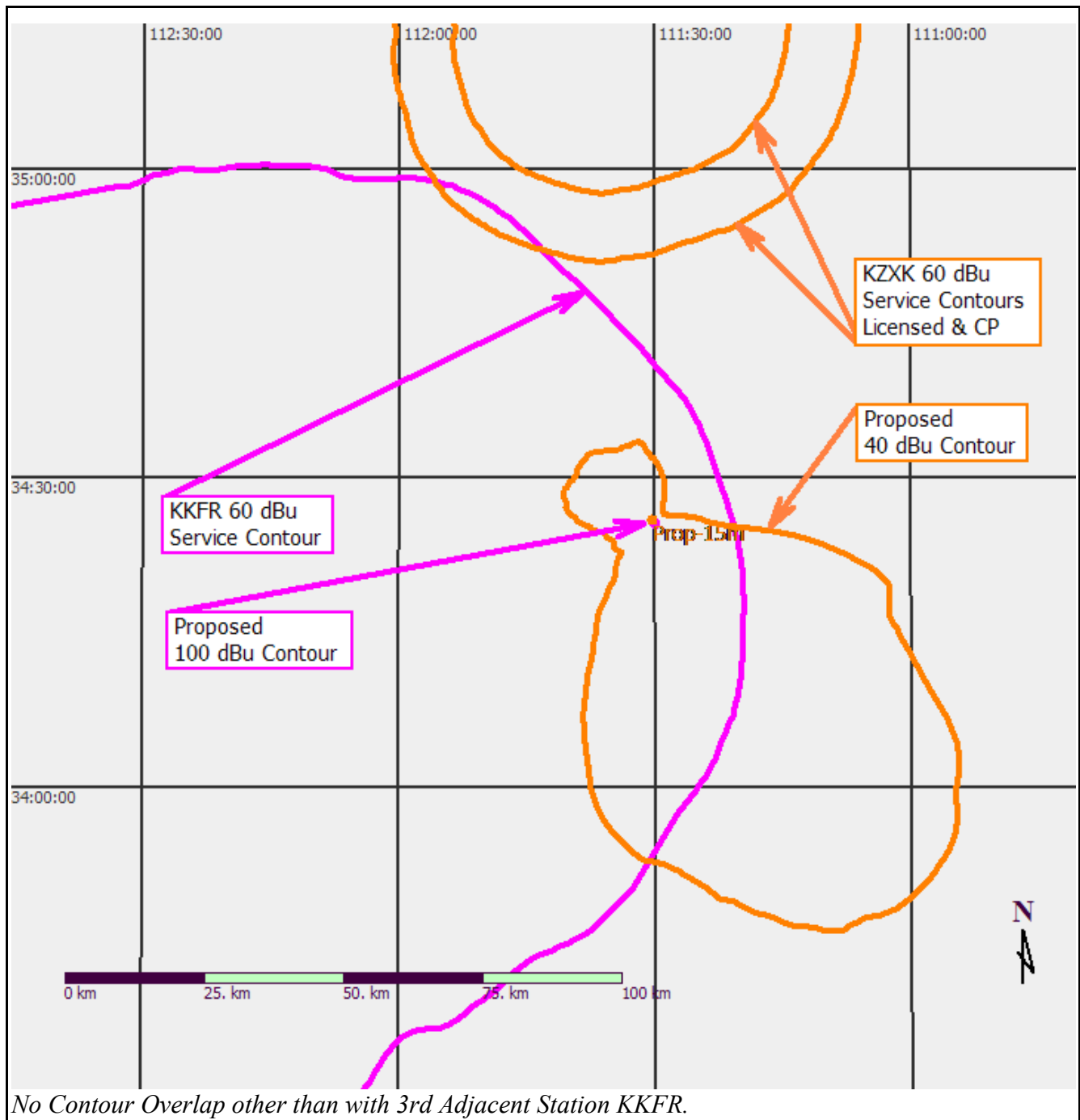


Degree	Field	Degree	Field	Degree	Field	Degree	Field	Degree	Field	Degree	Field
000	0.036	060	0.010	120	0.732	180	0.558	240	0.010	300	0.039
010	0.030	070	0.015	130	0.885	190	0.360	250	0.010	310	0.040
020	0.020	080	0.053	140	0.975	200	0.168	260	0.012	320	0.040
030	0.012	090	0.168	150	0.975	210	0.053	270	0.020	330	0.040
040	0.010	100	0.360	160	0.885	220	0.015	280	0.030	340	0.040
050	0.010	110	0.558	170	0.732	230	0.010	290	0.036	350	0.039

# Fill-In Contour Exhibit

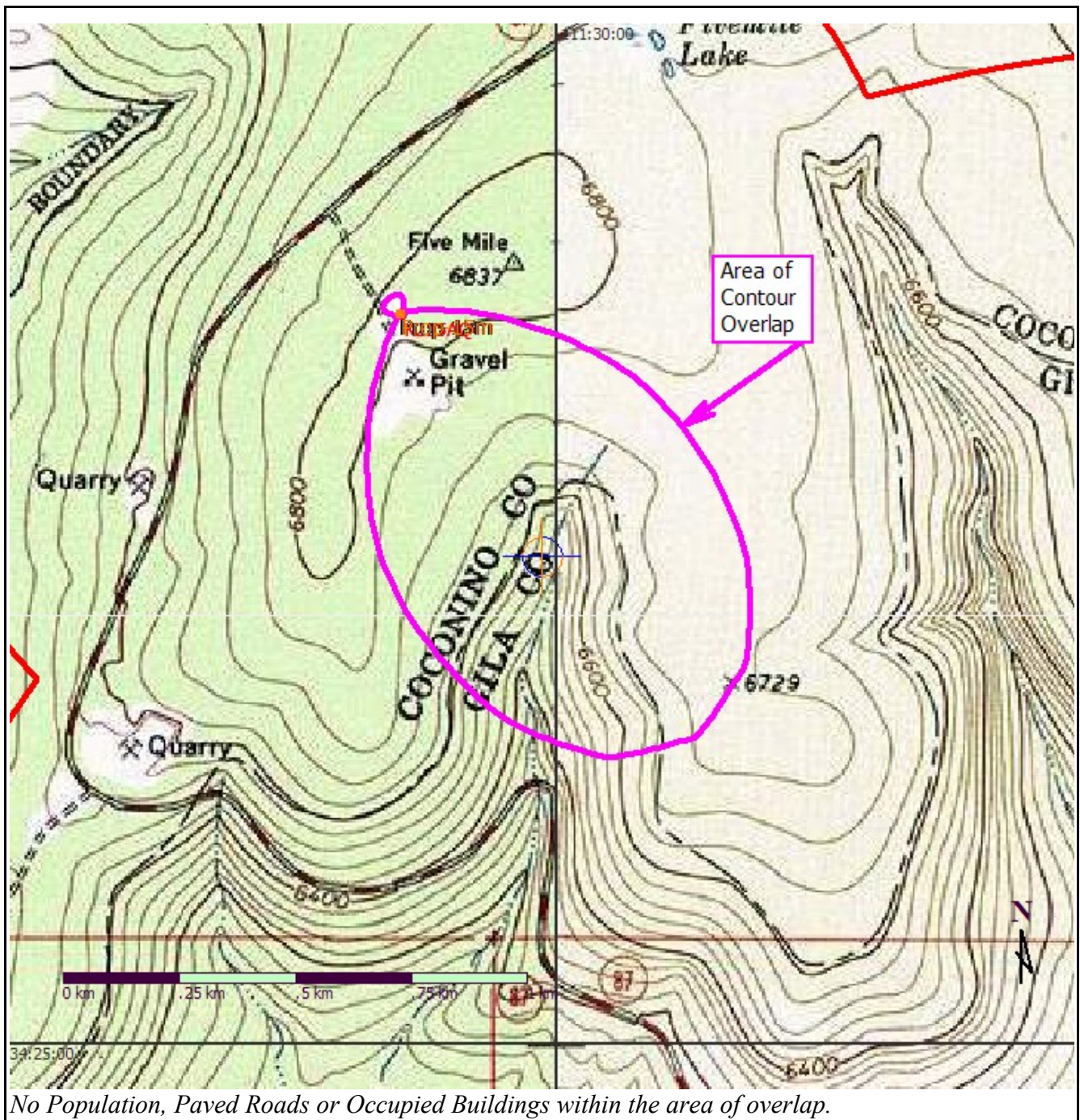


## Contour Overlap Exhibit





## Contour Overlap Exhibit



## RFR Exhibit

### RF Worksheet #1 - FM

Ref Line #			
(1)	Rad Center Height	15.000	Meters AGL
(3)	Building Height	0.000	Meters AGL
(4)	Clearance Height	15.000	Meters AGL
(5)	Head Height	13.000	Meters AGL
(6)	Horizontal ERP	0.250	kW
(7)	Vertical ERP	0.000	kW
(8)	Total Power	0.250	kW
(9)	Power x 33.41	8.353	
(10)	line 5 squared	169.000	
(11)	Line-9 / Line-10	0.049	
(12)	Percent Exposure	4.942	%