



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Telecommunications and**  
**Information Administration**  
Washington, D.C. 20230

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Federal Communications Commission  
Office of the Secretary

ET 04-186

ET 02-380

Mr. Julius Knapp, Chief  
Office of Engineering and Technology  
Federal Communications Commission  
445 12<sup>th</sup> Street SW  
Washington, DC 20554

Dear Mr. Knapp:

On November 14, 2008, the Federal Communications Commission ("Commission") released the *Second Report and Order and Memorandum Opinion and Order In the Matter of Unlicensed Operation in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band (Second R&O/MO&O)*.<sup>1</sup> The National Telecommunications and Information Administration (NTIA), in consultation with the National Science Foundation (NSF), requests that a modification be made to the final rule concerning the protection of the National Radio Astronomy Observatory's Very Large Array (VLA) observatory in New Mexico.<sup>2</sup>

With regard to the protection of radio astronomy observations, the Commission decided to restrict the operation of both fixed and portable unlicensed devices operating in the TV bands *within* and in the vicinity of radio astronomy observatories.<sup>3</sup> Specifically, the Commission forbade operation of TV band devices within 2.4 kilometers (km) of the coordinates of radio observatories. Appendix B of the *Second R&O/MO&O* lists the radio astronomy installations to be protected (the table of installations is found in the new Subpart H, Section 15.712(h)(3)). The table provides the coordinates (longitude and latitude) of the radio telescope installations to be protected.

The VLA, one of the world's premier astronomical radio observatories, is an interferometer that consists of 27 antennas of 25-m diameter and 230 tons each, laid out in a Y-shaped configuration on the Plains of San Agustin, fifty miles west of Socorro, New Mexico. With the aid of special transporters, the antennas can be moved into four possible configurations, with maximum antenna separations ranging from 1 km (D-array) to 36 km (A-array). The antennas are switched between the various possible configurations approximately every four months, depending on the requirements of the scheduled observation proposals. The coordinates given in the table of Section 15.712(h)(3) are those of the center of the Y, commonly given as the location of the

<sup>1</sup> See *Second Report and Order and Memorandum Opinion and Order* in ET Docket Nos. 02-380 and 04-186, 23 FCC Rcd 16807 (2008).

<sup>2</sup> Final Rule, *Unlicensed Operation in the TV Broadcast Bands*, 74 Fed. Reg. 7,314 (February 17, 2009). There is an ongoing reconsideration on this item, but nothing that concerns the protection of the radio astronomy observatories. See *Petitions for Reconsideration of Action in Rulemaking Proceeding*, 74 Fed. Reg. 16,870 (April 13, 2009).

<sup>3</sup> *Id.* at ¶ 156

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“telescope.” Even in the most compact configuration (D-array) of the instrument, the VLA antennas cover considerably more than 2.4 km in both the north-south and east directions; therefore, it is possible for an unlicensed device to come much closer than 2.4 km to one or even several of the antennas that make up the telescope, and consequently to operate well within the observatory and certainly in the immediate vicinity of the telescope. In order to protect the VLA from potential interference caused by unlicensed TV band devices in a manner consistent with the protection provided to the other telescopes on the list, the Commission needs to restrict unlicensed operations from an area extending 2.4 km from the outermost edges of the area physically covered by the antennas that make up the VLA. NTIA requests the Commission to replace the current entry referring to the VLA in the referenced table to read as follows:

Observatory	Longitude (Deg/Min/Sec)	Latitude (Deg/Min/Sec)
.....	.....	.....
Very Large Array (VLA)	Rectangle between latitudes 33°58'22" N and 34°14'56" N, and longitudes 107°24'40" W and 107°48'22" W	
.....	.....	.....

If you have any questions, my point-of-contact on this issue is Edward M. Davison (202-482-5526; [edavison@ntia.doc.gov](mailto:edavison@ntia.doc.gov)).

Sincerely,



Karl B. Nebbia  
 Associate Administrator  
 Office of Spectrum Management