



Engineering Statement

**Minor Modification of K32OW-D
File Number 0000157500
FCC FACILITY ID # 182677
Proposed Channel 32 at Lake of Ozarks, MO
August 23, 2021**

This Engineering Statement has been prepared on behalf of Viper Communications, Inc. (VIPER), licensee of Digital Low Power TV Station K32OW-D at Iberia, Missouri. The statement was prepared in support of a Minor Modification Construction Permit Application.

The station would like to move its transmitter location, change antenna pattern, height, and effective radiated power. Therefore, VIPER is filing a minor modification construction permit application seeking authorization to change its operations with new facility parameters.

The newly proposed facility parameters are within the required 30-mile distance limitation of the existing licensed location and the new proposed facility and licensed facilities both have overlapping contours. (See attached map).

The parameters of the new proposed facility are as follows:

Proposed Parameters:

Transmitter Location:	38-09-52.1 N 92-36-12.6 W (NAD 83)
Channel:	32
ERP:	15.0 KW
Emission Mask:	Stringent
Antenna Pattern:	Directional (270° True North)
Antenna Manufacturer:	Alive Telecom
Antenna Model:	ATC BCH78M-32
Antenna RCAGL:	115.8 Meters
Overall Structure AGL:	157.9 Meters
RCAMSL	370.6 Meters



Interference Study:

An interference study was undertaken utilizing the FCC's TVStudy program to analyze the co-channel and adjacent channel interference scenarios for the new proposed channel of operation.

The study utilized a study cell size of 1.0KM and a profile point spacing of 1.0 KM.

The results of the study indicated that no impermissible interference would result from the proposed operations.

Based upon the forgoing interference study, it is believed that the proposed facility can operate without any impermissible interference to other stations.

Environmental:

The relocated transmit antenna for K32OW-D will be side-mounted on a tower structure having an overall height of 157.9 meters AGL bearing the Antenna Structure Registration number of 1040883. There will be no environmental impact with the antenna being located on the side of this existing antenna support structure.

RF Exposure Study:

Furthermore, a study was conducted to determine compliance with the RF Radiation Maximum Permissible Exposure (MPE) limits of the proposed operation. The study was conducted using the methodology outlined in the FCC's OET Bulletin 65 regarding RF Radiation Compliance.

The modified K32OW-D facility, operating on channel 32, was evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the antenna is located 115.8 meters above ground level. The proposed operation was evaluated using Far-Field Equation (1) on page 30 of Supplement A to OET Bulletin No. 65 (August 1997). The ERP utilized in the calculations was set to the maximum ERP value of 15 kW which is the total power radiated in the horizontal plane. The elevation-plane antenna relative field values ["F" in Equation (1)] were those published by the manufacturer for the specified antenna. The maximum calculated power density at 2 meters (6.6 feet) above ground level is 0.00025 mW/cm² which is 0.01% of the FCC's recommended limit of 1.94 mW/cm² for an occupational/controlled environment and 0.06% of 0.39 mW/cm² for general public/uncontrolled exposure which is less than 5% of the total radiofrequency exposure allowance. The proposed operation is, therefore, categorically excluded under Section



1.1306 of the Commission's rules from having to consider the contributions of other stations at the site.

Access to the tower structure where the transmitting antenna is located and to any radio frequency generating equipment is restricted and will be appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and /or RFR exposure monitors or scheduling work when the station is at reduced power or shut down.

Based upon the forgoing it is believed that the proposed facility is in compliance with the required RF Exposure limits.

August 23, 2021

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