

**Statement of Federal Aviation Administration Consultant
Frederick Neudecker, Spohnheimer Consulting**

1. I serve as a Consultant with Spohnheimer Consulting, 35216 Military Road South, Auburn, Washington. Cox Radio, Inc. (“Cox”), retained Spohnheimer Consulting to consult on aviation communications matters in connection with the proposed relocation of the transmission system of Cox’s radio broadcast station WALR-FM serving the Atlanta, Georgia radio market. I have been principally responsible for Spohnheimer Consulting’s work on behalf of Cox to date. I have provided this statement for submission to the Federal Communications Commission.
2. Spohnheimer Consulting, founded in 2005, provides consulting services in the primary disciplines of Siting and Site Testing; Facility Design and Installation; Analysis, Troubleshooting, and On-Site Improvement of Facility Performance; Training for Federal Aviation Administration (“FAA”) and Military Engineers and Technicians; Spectrum Management Functions; Frequency Selection; Radio Frequency Interference Resolution; and Technical Support of FAA Form 7460 Issues. The consulting team is organized by Nelson Spohnheimer, and consists of retired FAA engineers, known nationally as among the top subject matter experts in their respective fields.
3. I have been associated with Spohnheimer Consulting since 2007. Prior to joining Spohnheimer Consulting, I was employed by the Federal Aviation Administration (FAA)(1975-2007), most recently as a Frequency Management Officer (1995-2007), primarily in the Western Service Area, but also working throughout the continental United States and in Guam and Puerto Rico in frequency planning and assignment for air to ground communications, resolution of radio frequency interference, and frequency coordination with other branches of government. Prior to joining the FAA, I was employed by Texas Instruments and Rockwell Collins, where my work included the testing of military and commercial communications equipment and participation in a program to develop and deploy instrument landing systems (“ILS”) equipment to U.S. Air Force bases worldwide.
4. At the request of Cox, I personally conducted a study to determine the potential interference impact on ILS in the Atlanta Georgia vicinity due to the proposed relocation of the transmission system of Cox’s WALR-FM. Cox proposes to relocate WALR-FM closer to the city of Atlanta, as described in the WALR-FM application filed under FCC File No. BPH 20160630ABI. The proposed modification also would place the station closer to the Hartsfield-Jackson Atlanta International Airport (FAA identifier KATL), raising a question of increased radio frequency interference (RFI) to certain ILS in the Atlanta area. The risk of interference is primarily due to the adjacent frequency band assignments for FM Broadcast (88-108 MHz) and Aeronautical Navigation (108-118 MHz).
5. The FAA uses the Airspace Analysis Model (AAM) to predict the electromagnetic compatibility between FM broadcast stations and aeronautical radio services. This model consists of standard RF propagation equations and empirical data acquired from measurements performed on a range of equipment under a variety of conditions. A mathematical representation of the data is used to categorize the performance of a representative receiver under a wide range of signal conditions.

The potential for radio-frequency interference is determined by calculating the signal conditions present at a specific site by identifying the relevant RF emitters in the area, applying standard propagation equations and adjusting for system losses to find the signal levels at the receiver input, and then examining the empirical data to see if the representative receiver would experience interference under those conditions. This is done at numerous points within the Frequency Protected Service Volume (FPSV) of each affected ILS station in question on the horizontal and vertical planes.

6. The FAA considers WALR-FM to be grandfathered at its current location. This means that the levels of interference predicted by the AAM are considered to be a baseline for future studies of the station for the purposes of power and/or antenna modifications. The FAA generally will not routinely approve a relocation that increases the number of predicted interference points as predicted by the AAM for any ILS within 30 nautical miles of the broadcast location.

7. My study showed potential increases in interference to Atlanta-area ILS systems due to increased proximity to ILS installations, despite reduced effective radiated power. On behalf of Cox, I consulted with Kenneth Bosket of the FAA's Eastern Service Area Spectrum Management Office regarding the results of the study and received confirmation that the proposed WALR-FM facilities would not be approved by the FAA. Accordingly, I have examined on behalf of Cox various alternatives for remediation of potential interference to ILS so as to permit the proposed facilities to meet standards for FAA approval.¹ Among other things, I have conducted a study to identify alternative channels for frequency relocation of those ILS facilities that potentially would experience significantly higher electromagnetic interference from the modified WALR-FM facilities. I have also confirmed with Stephanie Thomas of the FAA, that the FAA is willing to consider the relocation of these frequencies. Through Kevin Bittinger, Senior Operations Engineer (Navigation), a separate office within the FAA, I am requesting cost information to develop a plan that complies with FAA standards through a combination of the reduced effective radiated power for WALR-FM that Cox has reflected in its pending application (as compared to its current facilities) and remediation of interference through targeted ILS facility rechanneling. These negotiations can be time-consuming because the FAA personnel that necessarily must be involved in the approval of the plan and the remediation approaches have other principal duties. I have been instructed by Cox to proceed expeditiously to explore and complete a plan that would meet the FAA's standards.

I declare under penalty of perjury that the foregoing is true and correct.


Frederick Neudecker

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¹ Although the proposed site has a tower structure covered by an FAA Determination of No Hazard to Air Navigation (FAA Study No. 2014-ASO-7004-OE), I have advised Cox that this is an insufficient basis to assume that the FAA would not object to the proposed facilities and would not seek to enjoin their construction or, if constructed, require termination of operation, regardless of whether the proposal obtained the approval of the Federal Communications Commission.