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ENGINEERING EXHIBIT  
FLASH-CUT APPLICATION FOR  
DIGITAL TRANSLATOR CONSTRUCTION PERMIT  
WYFF HEARST TELEVISION INC.  
STATION W11AH, TRYON, ETC., NORTH CAROLINA  
CHANNEL 11 0.026 KW (MAX-DA)

WYFF Hearst Television Inc. (hereafter, Hearst) is the licensee of analog television translator Station W11AH, Tryon, Etc., North Carolina. The station operates on Channel 11 with a peak visual effective radiated power of 0.015 kW using a directional antenna. The antenna radiation center height, as currently licensed, is 992 meters above mean sea level. By means of the instant application, Hearst seeks a construction permit to flash-cut the W11AH analog operation to digital. To identify the digital operation in the discussions herein, the "LD" suffix has been added to the W11AH call sign.

The proposed operation for Station W11AH-LD is from the same site as for Station W11AH. However, as part of the preparation of the instant application, it was discovered that the NAD '27 geographic coordinates that are specified for the site on the W11AH license do not properly reflect the site location when plotted using the currently available U.S.G.S. 7.5' topographic quadrangle map. Accordingly, this application sets forth corrected NAD'27 geographic coordinates, although no physical change in site is involved. A corresponding correction in site elevation and antenna radiation center height above mean sea level, also, is provided, but no physical change in the mounting of the antenna is involved.

The maximum effective radiated power that is proposed is 0.026 kW (average). The antenna is mounted with the radiation center at 1001 meters AMSL. The site NAD '27 geographic coordinates are: 35° 15' 58.2" N. Latitude; 82° 14' 39.4" W. Longitude. A filter that provides a so-called, "simple mask" will be employed as part of the transmission system installation. The transmitter will meet FCC performance requirements for a digital translator.

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The W11AH antenna supporting tower is atop Tryon Peak and is 13.7 meters high. The structure does not require an ASRN.

The antenna consists of two stacks of Taco, Model Y-103-10, 10-element Yagi antennas. The first two antenna stack is oriented 108° True and the second two antenna stack is oriented 170° True. A power divider will funnel 95 % of the transmitter output power of 0.00201 kW to the antenna stack that is oriented 170° true. The remaining 5 % of the power will be directed to the 108° antenna stack. The relative fields for the composite antenna are furnished on Form 346. The maximum power gain for the composite antenna is 13 dBd.

Allocation concerns have been considered for this proposal using the Longley-Rice prediction methodology in accordance with the provisions set forth in OET Bulletin 69. For interference analysis purposes, the undersigned employed a Sunblade computer and the "tv\_process\_dlptv\_pt" program that was developed for the FCC by Mr. William Meintel. The undersigned has repeatedly replicated FCC results with the Sunblade computer and the mentioned program. The cell size used was 1 kilometer on a side and the terrain sampling intervals were 1 kilometer.

The allocation study results for the proposed W11AH-LD operation show that only full service digital television stations WTVI, Charlotte, N.C., Channel 11, and WJHL-TV, Johnson City, Tennessee, are of special interest. The study results indicate that of the 104 possible scenarios for the currently licensed WTVI operation in BMLEDT-20030428AAT, the worst interference scenario for the proposed W11AH-LD operation results in a prediction of interference impacting 0.4475 % of the served population. Similarly, for the WTVI operation pursuant to the outstanding construction permit in BPEDT-20080620ALW, the proposed W11AH-LD worst case prediction of

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interference is to 0.4804 % of the served population. With respect to the outstanding construction permit for WJHL-TV in BPCDT-20090911ABC, the worst case interference prediction is to 0.0287 % of the served population. Under FCC procedures, all of these interference predictions are less than the 0.5 % limit that is permitted to full service stations. The proposed operation complies with FCC interference protection criteria.

The impact that effectuation of the instant proposal could have on the environment has been considered using the criteria set forth in the Commission's Rules as the touchstone for evaluation. Since the proposed W11AH-LD operation will be from a site that is currently used for broadcasting, only the particular environmental concerns relating to radio-frequency radiation (rfr) exposure to the general public and to workers are germane.

The FCC's adopted limit at Channel 11 (196-204 MHz) for general public, whole body, unrestricted time, rfr exposure is  $0.2 \text{ mW/cm}^2$ . A test calculation has been performed for the proposed W11AH-LD operation toward an imaginary target that is located two meters above ground level at the base of the antenna supporting tower. The base of the tower is the closest that a member of the general public could get to the tower. The 2-meter height above ground level elevation approximates the height of a standing person's head. The bottom of the antenna was used as the radiation source.

The distance used for the calculation was 10 meters. The antenna radiation center is to be located 13.7 meters above ground level. As recommended in O.E.T. Bulletin 65, Edition 97-01, a ground reflection coefficient of 1.6 was employed. For the purpose of the study evaluation, flat earth was assumed in the vicinity of the tower site. In the interest of conservatism, no allowance was made for vertical plane directivity. The test calculation yielded a power density level of  $0.009 \text{ mW/cm}^2$  at the target, corresponding to

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a contribution of 4.5 % of the maximum permitted exposure (MPE) of  $0.2 \text{ mW/cm}^2$ . The proposed operation will comply with the FCC's MPE requirements for uncontrolled (general public) locations.

As to controlled (worker) location rfr exposure concerns, a radiation hazard warning sign is posted at the road entry gate, and excitation to the antenna is terminated whenever work must be performed on, or near the antenna.. It is believed that these procedures are adequate to avoid overexposure of workers to rfr.

The instant proposal complies with the FCC's adopted standards for controlled and uncontrolled locations. An Environmental Assessment is not required for this proposal.

I declare under penalty of perjury that the foregoing is true and correct. Executed on January 26, 2010.

*Bernard R. Segal, P.E.*

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Maryland Registration # 25811