ENGINEERING EXHIBIT

Application For A Construction Permit

prepared for

WSPY-TV, Inc.
WSPY-LD Plano, Illinois
Facility ID 189058
Ch. 35 (Digital) 15 kW (MAX-DA)

Table of Contents

This material supplies a "hard copy" of the engineering portions of this application as entered January 2, 2013 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's name and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.

Section III - Engineering (Digital)

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel:
35

2. Translator Input Channel No. :

3. Primary station proposed to be rebroadcast:

Facility Identifier	Call Sign	City	State	Channel

4. Antenna Location Coordinates: (NAD 27)
Latitude:
Degrees 41 Minutes 50 Seconds 36 (•) North ( ) South

Longitude:
Degrees 88 Minutes 05 Seconds 00 (•) West ( ) East

5. Antenna Structure Registration Number: 1029952
☐ Not Applicable [Exhibit 11] ☐ Notification filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: 228.6 meters

7. Overall Tower Height Above Ground Level: 93.3 meters

8. Height of Radiation Center Above Ground Level: 78.8 meters

9. Maximum Effective Radiated Power (ERP): 15 kW

10. Transmitter Output Power: 1.2 kW

11. a.Transmitting Antenna:
Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under CDBS Public Access (http://licensing.fcc.gov/prod/cdbs/pubacc/prod/cdbs_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search.

(•) Nondirectional ( ) Directional Off-the Shelf ( ) Directional composite

Manufacturer DIE Model TUA-C3-4/12L

b. Electrical Beam Tilt: 0.25 degrees ☐ Not Applicable

c. Mechanical Beam Tilt: degrees toward azimuth degrees True ☑ Not Applicable

d. Directional Antenna Relative Field Values: ☐ N/A (Nondirectional or Off-the-Shelf)

Rotation (Degrees): 180 ☐ No Rotation

Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value	Degrees	Value
0	0.969	10	0.960	20	0.786	30	0.707	40	0.854	50	0.820
60	0.652	70	0.752	80	0.946	90	0.999	100	0.977	110	0.865
120	0.710	130	0.545	140	0.371	150	0.189	160	0.087	170	0.062
180	0.056	190	0.050	200	0.073	210	0.204	220	0.377	230	0.540
240	0.704	250	0.853	260	0.954	270	0.978	280	0.942	290	0.756
300	0.686	310	0.849	320	0.828	330	0.672	340	0.770	350	0.940

Additional Azimuths	44	0.876	93	1.000	314	0.876

	e. Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt? If Yes, attach an Exhibit (see instructions for details).	○ Yes ◉ No [Exhibit 12]

Relative Field Polar Plot

	NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.	
12.	**Out-of-channel Emission Mask:** ○ Simple ○ Stringent ◉ Full Service	
CERTIFICATION		
13.	**Interference** : The proposed facility complies with all of the following applicable rule sections. 47.C.F.R Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030.	◉ Yes ○ No See Explanation in [Exhibit 13]
14.	**Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., The facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance, an **Exhibit is required.** By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.	◉ Yes ○ No See Explanation in [Exhibit 14]
15.	**Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable: ☐ The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available. ☐ Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.	
16.	**Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies compliance with the following requirements, as applicable: ☐ Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application , all commercial wireless licenses of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees. ☐ Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreements(s) with 700 MHz public safety regional planning committee(s) and state administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location. ☐ Pursuant to Section 74.786(e), the applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator (s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and	

	states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.

PREPARERS CERTIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.

SECTION III PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name RICHARD H. MERTZ	Relationship to Applicant (e.g., Consulting Engineer) CONSULTANT	
Signature	Date 1/2/2013	
Mailing Address CAVELL, MERTZ & ASSOCIATES, INC. 7732 DONEGAN DRIVE		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20109 -
Telephone Number (include area code) 7033929090	E-Mail Address (if available) RMERTZ@CAVELLMERTZ.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

Exhibits

Exhibit 13
Description: WSPY-LD EXHIBIT 13

EXHIBIT 13 CONTAINS STATEMENT A, NATURE OF THE PROPOSAL, ALLOCATION CONSIDERATIONS; FIGURES 1 AND 2; AND TABLE I.

Attachment 13

Description
WSPY-LD Exhibit 13

Exhibit 14
Description: WSPY-LD EXHIBIT 14

EXHIBIT 14 CONTAINS A TABLE OF CONTENTS; THE ENGINEERING PORTIONS OF THE FORM; AND STATEMENT B, ENVIRONMENTAL CONSIDERATIONS.

Attachment 14

Description

WSPY-LD Exhibit 14

Exhibit 14 - Statement B

ENVIRONMENTAL CONSIDERATIONS

prepared for

WSPY-TV, Inc.

WSPY-LD Plano, Illinois

Facility ID 72078

Ch. 35 (Digital) 15 kW (MAX-DA)

Introduction

The instant proposal is not believed to have a significant environmental impact as defined under §1.1306 of the Commission's Rules. Consequently, preparation of an Environmental Assessment is not required.

WSPY-TV, Inc., herein proposes to construct a digital WSPY-LD facility at a different site. A directional transmitting antenna will be employed, to be located on an existing tower structure with the Antenna Structure Registration Number 1029952.

The use of existing tower structure has been characterized as being environmentally preferable by the Commission, according to Note 1 of §1.1306 of the FCC Rules. No change in structure height is proposed, thus no change in current structure marking and lighting requirements is anticipated. Therefore, it is believed that this application may be categorically excluded from environmental processing pursuant to §1.1306 of the Commission's rules.

Human Exposure to Radiofrequency Electromagnetic Field

The proposed operation was evaluated for human exposure to radiofrequency electromagnetic field using the procedures outlined in the Commission's OET Bulletin 65 ("OET 65"). OET 65 describes a means of determining whether a proposed facility exceeds the radiofrequency exposure guidelines adopted in §1.1310. Under present Commission policy, a facility may be presumed to comply with the limits specified in §1.1310 if it satisfies the exposure criteria set forth in OET 65. Based upon that methodology, and as demonstrated in the following, the proposed transmitting system will comply with the cited adopted guidelines.

The WSPY-LD Channel 35 antenna center of radiation will be 78.8 meters above ground level. An effective radiated power of 15 kilowatts, horizontally polarized, will be employed utilizing a Dielectric model TUA-C3-4/12L directional antenna. A "worst-case" relative field value of 40 percent is assumed for purposes of the calculation. The "uncontrolled/general population" limit specified in §1.1310 for Channel 35 (center frequency 599 MHz) is 399.3 $\mu W/cm^2$.

OET 65's formula for television transmitting antennas is based on the NTSC transmission standards, where the average power is normally much less than the peak power. For the DTV facility in the instant proposal, the peak-to-average ratio is different than the NTSC ratio. The DTV ERP figure herein refers to the average power level. The formula used for calculating DTV signal density in this analysis is essentially the same as equation (10) in OET 65.

$$\mathbf{S = (33.4098)\ (F^2)\ (ERP)\ /\ D^2}$$

Where:

S	=	power density in microwatts/cm^2
ERP	=	total (average) ERP in Watts
F	=	relative field factor
D	=	distance in meters

Using this formula and the above assumptions, the proposed facility would contribute a power density of 13.6 $\mu W/cm^2$ at two meters above ground level near the antenna support structure, or 3.4 percent of the general population/uncontrolled limit.

§1.1307(b)(3) states that facilities are categorically excluded from responsibility for taking any corrective action in the areas where their contribution is less than five percent of the exposure limit. Since the instant situation meets the five percent exclusion test at all ground level areas, the impact of any other facilities near this site may be considered independently from this proposal. Accordingly, it is believed that the impact of the proposed operation should not be considered to be a factor at or near ground level as defined under §1.1307(b).

Safety of Tower Workers and the General Public

As demonstrated herein, excessive levels of RF energy attributable to the proposal will not be caused at publicly accessible areas at ground level or near the base of the antenna supporting

structure. Consequently, members of the general public will not be exposed to RF levels in excess of the Commission's guidelines. Nevertheless, roof access will be restricted and controlled through the use of a locked door. Additionally, appropriate RF exposure warning signs will be posted.

With respect to worker safety, it is believed that based on the preceding analysis, excessive exposure would not occur in areas at ground level or at the base of the top mounted tower structure. A site exposure policy will be employed protecting maintenance workers from excessive exposure when work must be performed on the tower or in areas where high RF levels may be present. Such protective measures may include, but will not be limited to, restriction of access to areas where levels in excess of the guidelines may be expected, power reduction, or the complete shutdown of facilities when work or inspections must be performed in areas where the exposure guidelines will be exceeded. On-site RF exposure measurements may also be undertaken to establish the bounds of safe working areas. The applicant will coordinate exposure procedures with all pertinent stations.

Conclusion

Based on the preceding, it is believed that the instant proposal may be categorically excluded from environmental processing under §1.1306 of the Rules; hence preparation of an Environmental Assessment is not required.