WFHC-LP

Hendersonville, North Carolina

Application for Minor Modification

On Channel 247 Class L1

by

JBN, Inc.

Engineering Exhibit

Change of Site

January 2011

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Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Engineering Exhibit for JBN, Inc., and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.

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20 January 2011

Narrative

This Exhibit provides details of Protection under §73.807 for the proposed change of site for WFHC-LP, Hendersonville, North Carolina. The facilities proposed will provide better service than the authorized facilities.

Table 3 provides all channel adjacencies where the margin compared to the spacings in §73.807 are no more than 75 kilometers. Rounding of 0.5 kilometers is shown. Table 4 shows the nearest allocations for the authorized facilities of WFHC-LP.

This application proposes a change in coordinates and a change in antenna radiation center above ground, above Mean Sea Level, and Above Average Terrain.

WFHC-LP is authorized with a time share agreement with co-channel facility WICE-LP, Hendersonville, North Carolina. The proposed move removes the short spacing between the two facilities and will permit unlimited time operation by both facilities.

The proposed site is a wooden pole on the grounds of a school, the Fletcher Academy, adjacent to a water tank.

Waiver Request

The facilities proposed for this facility are 7.2 kilometers from the authorized WFHC-LP, which exceeds the 5.6 kilometer limit for minor modifications. This application requests a waiver of §73.870(a) to increase the distance moved. As shown in Figure 1, there is substantial overlap of the licensed and proposed area. The station will continue to serve its community of license.

The proposed move eliminates an existing short spacing. The move creates a separation distance greater than 14 kilometers from first adjacent LPFM station WICW-LP. Once the two

facilities are fully spaced, the time-sharing agreement between the two stations will no longer be necessary, and each can apply for a minor modification to eliminate the restrictions on their respective hours of broadcast. This waiver will increase service to the public from two sources, and is therefore in the public interest.

Application 626602, Balfour, North Carolina

The facilities proposed for this facility are 7.2 kilometers from the authorized WFHC-LP facilities and co-channel to the facilities authorized for WFHC-LP, and first-adjacent to co-channel station WICE-LP, Hendersonville, North Carolina. The facilities proposed in application 626602 did not protect the LPFM applications that preceded it. The proposed modification continues to be incompatible with application 626602. Application 626602 proposes a height above ground of 845 meters with no FAA notification or ASRN, indicating some sort of error in the application.

Height Above Average Terrain and Effective Radiated Power

The proposed facilities represent a change in coordinates and elevation. Table 1 lists the Height Above Average Terrain ("HAAT") for eight through 360 radials using 30 arc second terrain data and the latest NED 03 arcsecond terrain data, USGS 3 arc second terrain data, and also using NGDC 30 arc second terrain data. Data from the FCC's web based HAAT Calculator is presented as well. As Figure 1 shows, there are significant arcs where the distance to the 60 dBu contour is fixed by the minimum distance predicted for 30 meters or lower HAAT. All studies in this Exhibit were prepared using the NED 03 terrain database as described below and 97 Watts ERP, the power level calculated by the FCC web site utility

FMpower for a HAAT of 30.4 meters. An additional contour shows the reduced area if the worst case HAAT of 46.8 meters is rounded to 47 meters, producing an ERP of 41 Watts.

Table 1: Height Above Average Terrain

	NED 03 Arc Second Terrain	USGS 3 Arc Second Terrain	30 Arc Second Terrain	FCC HAAT Program
8 Radial Average	44.3	44.9	46.8	47
12 Radial Average	26.5	27.7	31.8	32
36 Radial Average	29.1	30.2	33.7	34
360 Radial Average	30.4	31.2	33.7	34

It is clear from the data in Table 1 that reliance on an 8 radial average gives results that are significantly different from the results with a greater number of radials.

Use of 3 arcsecond terrain data incorporates more data into the calculation, improving the accuracy of the results.

Source of Data

Transmitter location, effective radiated power, directional antenna pattern (where applicable), and elevation data are extracted from the Commission's CDBS. All contours for existing and proposed facilities are calculated using height above average terrain calculated at one-degree horizontal increments. Terrain data for the comparative contours is extracted from the V-Soft Communications NED 03 terrain database. The NED 03 database is derived from the USGS National Elevation Data 30 meter terrain database. The USGS National Elevation Dataset has been developed by merging the highest-resolution, best-quality elevation data available across the United States into a seamless raster format. NED is the result of the

maturation of the USGS effort to provide 1:24,000-scale Digital Elevation Model (DEM) data for the conterminous US and 1:63,360-scale DEM data for Alaska.

Terrain data is also extracted from a USGS 3 arcsecond terrain database and a NGDC 30 arcsecond terrain database. Minor differences in HAAT calculations are shown, which is typical of the irregular terrain in the area.

Table 2: Proposed Allocation

Timothy L. Warner, Inc.
Asheville, North Carolina

Allocation Study
JBN Inc.

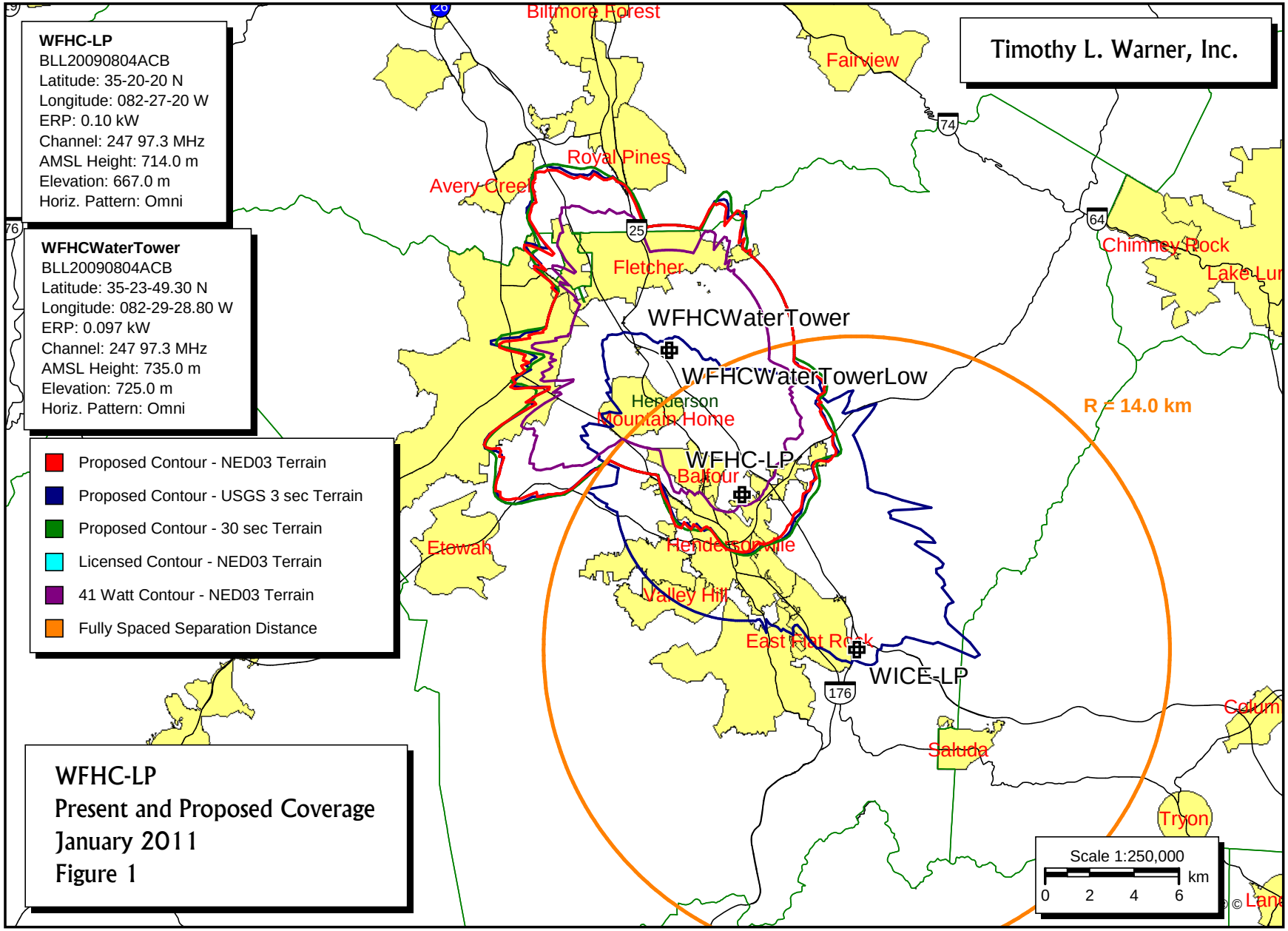
REFERENCE
35 23 49.3 N.
82 29 28.8 W.

CLASS = L1
Current Spacings to 3rd Adj.

DISPLAY DATES
DATA 01-20-11
SEARCH 01-20-11

Channel 247 - 97.3 MHz

Call		Channel	Location		Azi	Dist	FCC	Margin
WFHC-LP	LIC	247L1	Hendersonville	NC	153.3	7.2	23.5	-16.3
Facility being modified								
626602	APP-D	247D	Balfour	NC	175.0	4.8	38.5	-33.7
Not protected by licensed WFHC-LP or WICE-LP								
649562	APP	247D	Asheville	NC	343.5	25.7	25.5	0.19
WICE-LP	LIC	246L1	Hendersonville	NC	148.0	15.8	13.5	2.3
Currently shares time with WHFC-LP due to existing short spacing.								
649301	APP	247D	Black Mountain	NC	27.0	28.9	25.5	3.4
649550	APP	300D	Hendersonville	NC	194.8	10.1	4.5	5.6
W249AR	LIC	249D	Asheville	NC	322.4	27.0	20.5	6.6
970915TG	APP	248D	Brevard	NC	215.3	29.6	20.5	9.1
Translator for WLFJ, Greenville, SC								
643543	APP-D	249D	Chimney Rock	NC	69.7	24.5	13.5	11.0
632628	APP	247D	Canton	NC	294.1	37.2	25.5	11.7
W250AN	LIC-D	250D	Tryon	NC	122.8	26.8	13.5	13.3
WKBC-FM	LIC-D	247C	North Wilkesboro	NC	58.1	144.5	129.5	15.0
649553	APP	300D	Asheville	NC	345.5	22.9	4.5	18.4
WROO	LIC-Z	244A	Mauldin	SC	171.2	53.4	28.5	24.9
WXBQ-FM	LIC-D	245C	Bristol	VA	15.4	119.3	92.5	26.8
WJXB-FM	LIC	248C	Knoxville	TN	298.1	147.1	119.5	27.6
643833	APP-D	250D	Lake Junaluska	NC	297.0	42.2	13.5	28.7
W237AR	APP-D	246D	Hazelwood, Etc.	NC	277.5	56.4	27.5	28.9
WPEG	LIC-D	250C	Concord	NC	91.4	121.5	92.5	29.0
626601	APP-D	300D	Weaverville	NC	351.4	34.5	4.5	30.0
634608	APP-D	246D	Lake Toxaway	NC	236.7	53.6	20.5	33.1
W247AB	LIC	247D	Greenville	SC	172.2	61.0	25.5	35.5
Translator For WNCW, Spindale, NC								
W246BU	LIC	246D	Spartanburg	SC	132.4	69.6	20.5	49.1
W249CB	CP	249D	Six Mile	SC	192.3	63.3	13.5	49.8
WNCC-FM	LIC-N	244A	Franklin	NC	255.7	82.4	28.5	53.9
W249CB	LIC	249D	Six Mile	SC	200.7	66.3	7.5	58.8
WKKT	LIC-D	245C	Statesville	NC	83.9	154.6	92.5	62.1
WSRV	LIC	246C	Gainesville	GA	221.9	188.6	119.5	69.1


WFHC-LP
BLL20090804ACB
Latitude: 35-20-20 N
Longitude: 082-27-20 W
ERP: 0.10 kW
Channel: 247 97.3 MHz
AMSL Height: 714.0 m
Elevation: 667.0 m
Horiz. Pattern: Omni
WFHCWaterTower
BLL20090804ACB
Latitude: 35-23-49.30 N
Longitude: 082-29-28.80 W
ERP: 0.097 kW
Channel: 247 97.3 MHz
AMSL Height: 735.0 m
Elevation: 725.0 m
Horiz. Pattern: Omni
Proposed Contour - NED03 Terrain
Proposed Contour - USGS 3 sec Terrain
Proposed Contour - 30 sec Terrain
Licensed Contour - NED03 Terrain
41 Watt Contour - NED03 Terrain
Fully Spaced Separation Distance
Timothy L. Warner, Inc.
WFHC-LP
Present and Proposed Coverage
January 2011
Figure 1
Biltmore Forest
Fairview
Royal Pines
Avery Creek
Fletcher
WFHCWaterTower
WFHCWaterTowerLow
Henderson
Mountain Home
WFHC-LP
Balfour
Etowah
Hendersonville
Valley Hill
East Flat Rock
WICE-LP
Saluda
Tryon
Chimney Rock
Lake Lur
Cotum
R = 14.0 km
Scale 1:250,000
km
0 2 4 6
74
25
64
176
26
76