

TECHNICAL STATEMENT
APPLICATION FOR MODIFICATION OF LICENSE
RADIO STATION WWOC(FM)
HATTERAS, NORTH CAROLINA
CH 233C1 100 KW(MAX-DA) 299 M

This Technical Statement was prepared on behalf of Max Media of the Carolinas, LLC, licensee of FM broadcast station WWOC(FM), Hatteras, North Carolina. Station WWOC(FM) operates on Channel 233C1 employing a maximum directional effective radiated power (ERP) of 100 kilowatts with an antenna height above average terrain (HAAT) of 299 meters. The instant application for modification of license seeks authorization for the recent installation of a replacement directional antenna. There is no change in the maximum ERP or the antenna HAAT. However, the facility composite pattern envelope is being changed in order to meet the 85% pattern RMS rule.

This filing meets the requirements of Section 73.316(b)(2). The following is being filed as part of the instant application for modification of license:

1. A complete description of the antenna (See Antenna Manufacturer's Report.)
2. A plot of the new composite pattern. (See Figure 1 herein.)
3. Tabulation of the composite pattern (See Figure 2 herein.) and the measured pattern. (See Antenna Manufacturer's Report.)
4. A statement that the antenna is mounted properly. (See Engineer's Statement.)
5. A statement that the antenna is not mounted on the top of an antenna tower which includes a top-mounted platform. (See Engineer's Statement.)
6. A statement that no other antenna is mounted on the same tower level as the directional antenna and that no antenna of any type is mounted near the aperture specified by the manufacturer as being necessary for proper directional operation. (See Engineer's Statement.)

7. A statement from an engineer certifying the antenna has been installed pursuant to the manufacturer's instructions. (See Engineer's Statement.)
8. A statement from a licensed surveyor that the installed antenna is properly oriented. (See Surveyor's Statement.)
9. A demonstration of compliance with the 85% RMS rule. (See Figure 3 herein.)
10. A demonstration that the required 70 dBu contour coverage of Hatteras is maintained. (See Figure 4 herein.)

Predicted Coverage Contours

The predicted coverage contours were calculated in accordance with Section 73.313 of the FCC Rules. The average terrain elevations from 3 to 16 km from the proposed site were computed using the U.S.G.S. 3-second linearly interpolated terrain database.

The distances to the conventional FCC predicted coverage contours were determined using the average elevations of 3-16-km radials spaced 10-degrees of azimuth. The antenna radiation center HAAT in each radial direction and the composite pattern envelope ERP were used in conjunction with the propagation prediction curves of Section 73.333 to determine the distances to contours. Figure 4 is a map showing the predicted coverage contours.

As indicated in Figure 4, the predicted 70 dBu contour encompasses the entire community of Hatteras in compliance with Section 73.315 of the FCC Rules.

Environmental Considerations

With respect to radio frequency (RF) exposure issues, the proposed facility is categorically excluded from environmental processing pursuant to Section 1.1306 of the FCC Rules.

A worst-case analysis of the RF exposure situation was conducted using the procedures outlined in FCC OET Bulletin No. 65. The following facilities were considered in the RF exposure evaluation:

Call Sign	Channel	Total ERP (kW)	Antenna Radiation Center Height Above Ground (m)	Type of Transmitting antenna	Comment
WWOC(FM)	233	200	298	Dielectric, DCRM8CD	See Antenna Manufacturer's Report

A detailed analysis of the maximum RF exposure level from the WWOC(FM) facilities was conducted at 2-m above ground level using the transmitting antenna vertical plane radiation pattern. The following table summarizes the results of the RF exposure analysis:

Call Sign	Channel	Total ERP* (kW)	Antenna Radiation Center Height Above Ground (m)	Relative Field Factor†	FCC Limit‡ (uW/cm²)	Percentage of Limit§
WWOC(FM)	233	200	298	0.25	200	2.4

As indicated, the RF exposure at 2-m above ground level will not exceed 2.4% of the FCC limit for uncontrolled environments. Therefore, the proposal complies with the FCC limits for human exposure to RF radiation and it is categorically excluded from environmental processing.

* The sum total horizontally and vertically polarized ERP.

† This is a conservative estimate of the relative field factor in the downward direction.

‡ for uncontrolled environments

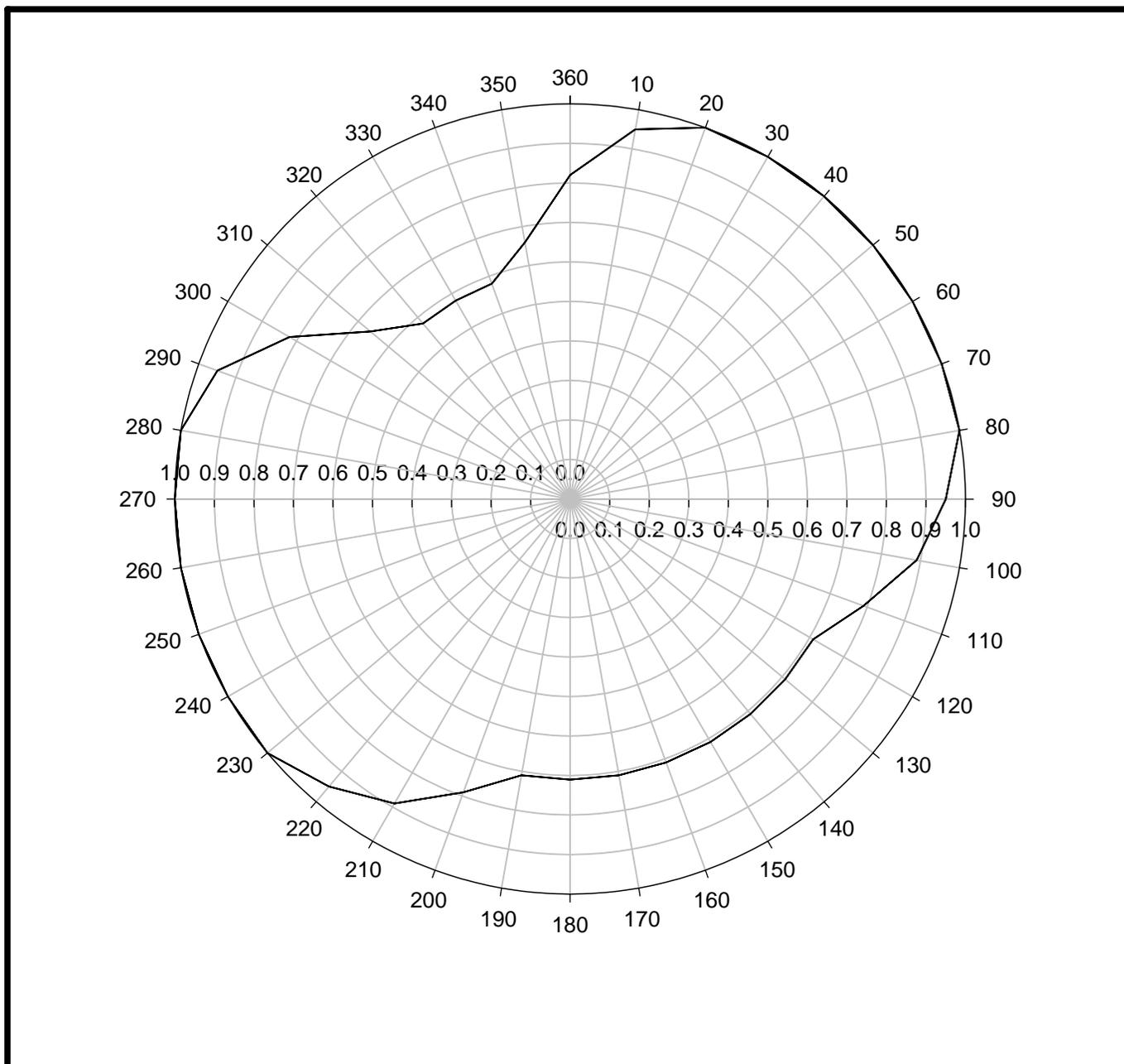
§ Calculations were made at 2-m AGL according to the procedures outlined in FCC OET Bulletin No. 65.

The applicant shall reduce power or cease operation as necessary to protect persons having access to the tower from RF energy in excess of the FCC guidelines.

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AZIMUTHAL PLANE PATTERN ENVELOPE

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Tabulation of Proposed Antenna
Azimuthal Plane Pattern Envelope

Azimuth (deg.True)	Relative Field	Azimuth (deg.True)	Relative Field
0	0.820	180	0.710
10	0.950	190	0.710
20	1.000	200	0.790
30	1.000	210	0.890
40	1.000	220	0.950
50	1.000	230	1.000
60	1.000	240	1.000
70	1.000	250	1.000
80	1.000	260	1.000
90	0.950	270	1.000
100	0.890	280	1.000
110	0.790	290	0.950
120	0.710	300	0.820
130	0.710	310	0.660
140	0.710	320	0.580
150	0.710	330	0.580
160	0.710	340	0.580
170	0.710	350	0.660

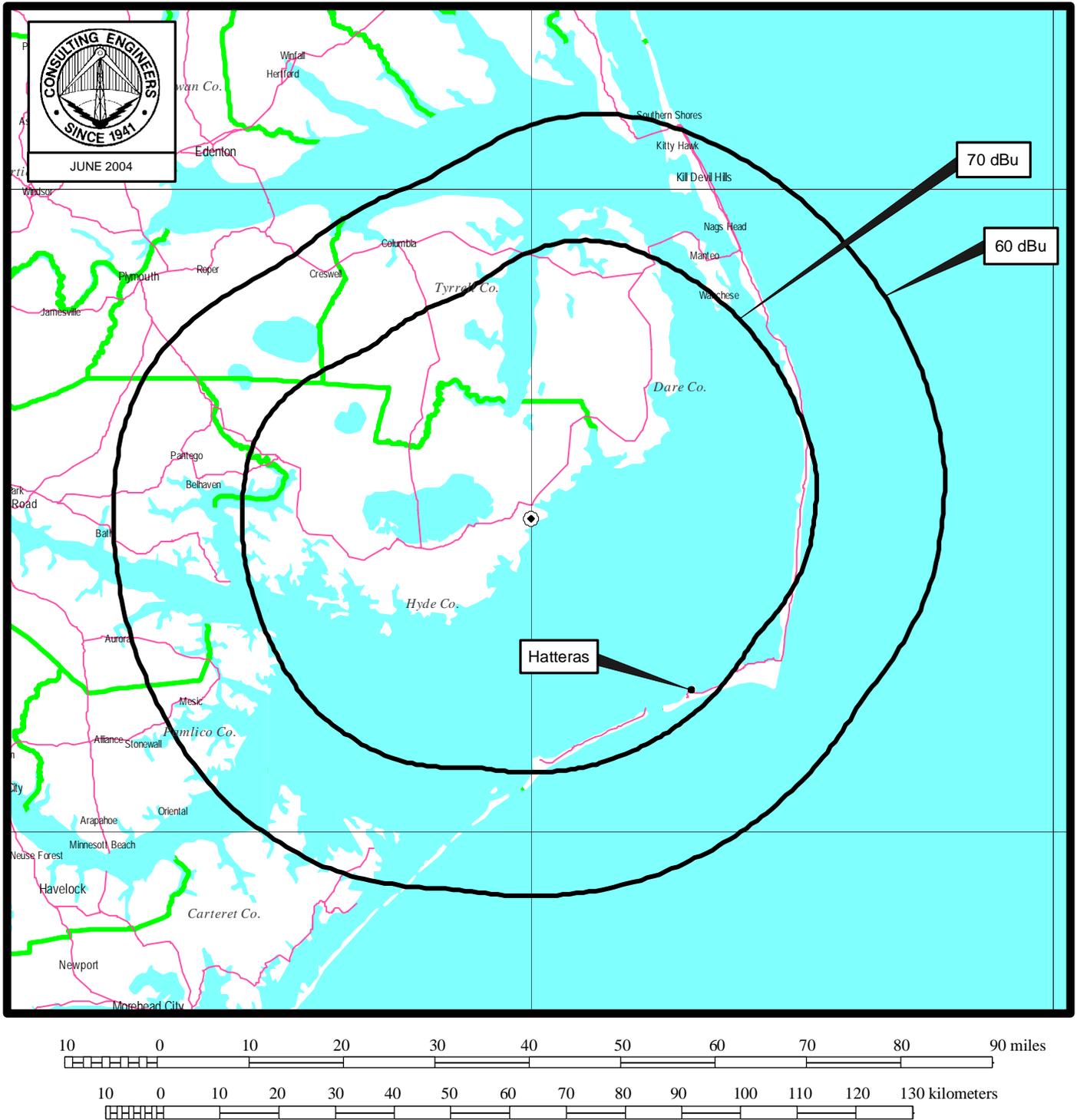
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Compliance with 85% RMS Rule

<u>Azimuth</u>	<u>Composite Pattern</u>	<u>Squared</u>	<u>Measured Pattern</u>	<u>Squared</u>
0	0.820	0.672	0.701	0.491
10	0.950	0.903	0.811	0.658
20	1.000	1.000	0.894	0.799
30	1.000	1.000	0.959	0.920
40	1.000	1.000	0.996	0.992
50	1.000	1.000	0.998	0.996
60	1.000	1.000	0.987	0.974
70	1.000	1.000	0.955	0.912
80	1.000	1.000	0.918	0.843
90	0.950	0.903	0.863	0.745
100	0.890	0.792	0.794	0.630
110	0.790	0.624	0.728	0.530
120	0.710	0.504	0.693	0.480
130	0.710	0.504	0.701	0.491
140	0.710	0.504	0.710	0.504
150	0.710	0.504	0.705	0.497
160	0.710	0.504	0.670	0.449
170	0.710	0.504	0.614	0.377
180	0.710	0.504	0.589	0.347
190	0.710	0.504	0.622	0.387
200	0.790	0.624	0.697	0.486
210	0.890	0.792	0.767	0.588
220	0.950	0.903	0.814	0.663
230	1.000	1.000	0.812	0.659
240	1.000	1.000	0.765	0.585
250	1.000	1.000	0.678	0.460
260	1.000	1.000	0.564	0.318
270	1.000	1.000	0.464	0.215
280	1.000	1.000	0.436	0.190
290	0.950	0.903	0.476	0.227
300	0.820	0.672	0.540	0.292
310	0.660	0.436	0.581	0.338
320	0.580	0.336	0.573	0.328
330	0.580	0.336	0.539	0.291
340	0.580	0.336	0.544	0.296
350	0.660	<u>0.436</u>	0.605	<u>0.366</u>
RMS:		0.861		0.733

Calculated ratio of measured pattern to composite pattern:

0.851



PREDICTED COVERAGE CONTOURS

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