

AM BROADCAST STATION CONSTRUCTION PERMIT

1. Permittee:

CRUSADE BROADCASTING CORPORATION

- 2. Station location : Ewing, NJ
- 3. Transmitter location : 0.72 Km SW of intersection of
Route 32 & 532, near Washington
Crossing, PA
- North Latitude : 40° 17' 16"
- West Longitude : 74° 52' 23"
- 4. Main studio location :
*(Listed only if not at transmitter site or not within
boundaries of principal community.)*
- 5. Remote control location :
- 6. Transmitter : Type accepted
*(See Section 73.1660, 73.1665 and 73.1670 of the
Commission's Rules.)*

Average hours of sunrise and sunset:
Standard Time (Non-Advanced)

PROVIDED WITH PREVIOUS
AUTHORIZATION

7. Antenna and ground system: Attached

8. Obstruction marking and lighting specifications: FCC Form 715, paragraphs: 1, 3, 12, 21 & 22.

9. Operating Assignment

- Frequency : 1300 kHz
- Power—Night : 1.3 Kw (Directional)
- Day : 3.2 Kw (Directional)
- Hours of Operation : Unlimited

10. Conditions : Attached

11. Deadline for completion of construction and filing FCC Form 302: 1 months from date of grant (shown below)

Subject to the provisions of the Communications Act of 1934, as amended, treaties, and Commission Rules, and further subject to conditions set forth in this permit,¹ authority is hereby granted to construct an AM broadcast station located and described as above.
Equipment and program tests shall be conducted only pursuant to Sections 73.1610 and 73.1620 of the Commission Rules.
This permit shall be forfeited if the station is not ready for operation within the time specified or within such further time as the Commission may allow unless completion of the station is prevented by causes not under the control of the permittee. See Section 73.3599 of the Commission's Rules.

¹ This construction permit consists of this page and page(s) 2 & 3

Dated: DEC 6 1985

KN/ajs

FEDERAL
COMMUNICATIONS
COMMISSION



DEC 8 1985

File No. BMP-871231AA Call Letters WIMG Date _____

1. DESCRIPTION OF DIRECTIONAL ANTIENNA SYSTEM DA 2 - U

No. and Type of Elements: Four(4) vertical, guyed, series excited, steel radiators of uniform cross section. Theoretical RMS 689.5 mV/m @ 1 km (day); 457 mV/m @ 1 km (night); Augmented RMS 725 mV/m @ 1 km (day); 480.28 mV/m @ 1 km (night). Q = 21.06 day; 15.24 Night

Height above Insulators: 91.5 m (142.6° + 71.3° top loading)

Overall Height: 92.4 m

Spacing and Orientation: Using Twr. #4(W) as a reference, Tower #2(S) is spaced 90° at a bearing of 132.5° T, Twr. #3(N) is spaced 184° at a bearing of 52.5° T and Tower #4(E) is spaced 218.4° at a bearing of 76.4° T.

Non-Directional Antenna: None authorized.

Ground System Consists of 120 equally spaced, buried, copper radials about the base of each tower 57.9 m in length except where intersecting radials are shortened and bonded, plus 120 interspersed radials 15.2 m in length about the base of each tower.

2. THEORETICAL SPECIFICATIONS

Phasing:	Tower	#1(W)	#2(S)	#3(N)	#4(E)
Night		-117°	79°	164°	0°
Day		117.3°	13.2°	104.1°	0°
Field Ratio:					
Night		0.81	0.9	0.9	1.0
Day		0.66	0.83	0.80	1.0

3. The inverse distance field intensity at a distance of one kilometer from the above antenna in the directions specified shall not exceed the following values:

Day	Azimuth	Radiation	Night	Azimuth	Radiation
	13.5° T	226.72 mV/m		32.5° T	48.36 mV/m
	46.5° T	190 mV/m		175.5° T	87.00 mV/m
	208.5° T	170 mV/m		232.5° T	47.62 mV/m
	260.0° T	105 mV/m		289.0° T	45.73 mV/m
	348.5° T	177 mV/m			

A monitoring point in each of the above directions in which a field intensity is specified shall be designated with complete detail including a description of the point, directions for proceeding thereto and the field intensity measured at the point after final adjustment of the antenna system in exact accordance with the terms of this authorization and the Rules and Regulations and Standards of Good Engineering Practice Governing Standard Broadcast Stations. The points shall be in the clear so as to permit the taking of unobstructed field intensity measurements and shall be located not less than one mile nor more than four miles from the antenna in the direction specified.

No operation shall occur other than during the experimental period until data has been submitted showing that operation is in accordance with the above specifications and that the field intensity pattern is in substantial agreement with the theoretical pattern specified in the application

THE AUTHORITY GRANTED IS SUBJECT TO THE FOLLOWING CONDITIONS:

A complete nondirectional proof of performance, in addition to a complete proof on the day and night directional antenna system, shall be submitted before program tests are authorized. The nondirectional and directional field strength measurements must be made under similar environmental conditions.

Permittee shall install a type accepted transmitter, or submit application (FCC Form 301) along with data prescribed in Section 73.1660(b) should non-type accepted transmitter be proposed.

Operation by remote control authorized.

The license application to cover this authorization may refer to and rely upon the technical data contained in the engineering report filed BL-810702AE to establish that the array is adjusted to establish that the array is adjusted to within the pattern authorized herein.

Before program tests are authorized, permittee shall submit sufficient current distribution measurement data to establish clearly that the current distribution approximates that of an antenna with electrical height of 213.9 degree, as proposed.

An antenna monitor of sufficient accuracy and repeatability, and having a minimum resolution of 0.1 degrees phase and 0.1 percent sample current ratio deviation shall be installed and continuously available to indicate the relative phase and magnitude of the sample currents of each element in the array to insure maintenance of the radiated fields within the standard pattern values of radiation.

Upon receipt of operating specifications and before issuance of a license, permittee shall submit the results of observations made daily of the base currents and their ratios, relative phases, sample currents and their ratios and sample current ratio deviations for each element of the array along with the final amplifier plate voltage and current, the common point current, and the field strengths at each monitoring point for both the nondirectional and directional nighttime operations for a period of at least thirty days, to demonstrate that the array can be maintained within the specified tolerances.