

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant

Saga Communications of New Hampshire LLC.

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

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Station License

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Direct Measurement of Power

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
WZBK	not applicable	1220 kHz	UNLIMITED	0.146 kW	1.0 kW

2. Station location

State New Hampshire	City or Town Keene
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3. Transmitter location

State NH	County Cheshire	City or Town Keene	Street address (or other identification) 0.23 Mi S-SW of West St. & SR 9
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4. Main studio location

State NH	County Cheshire	City or Town Keene	Street address (or other identification) 69 Stanhope Ave.
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5. Remote control point location (specify only if authorized directional antenna)

State	County	City or Town	Street address (or other identification)
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6. Has type-approved stereo generating equipment been installed?

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Yes

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No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68?

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Yes

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No

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Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed.

Exhibit No.

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system 2.00 amperes	RF common point or antenna current (in amperes) without modulation for day system 5.25 amperes
Measured antenna or common point resistance (in ohms) at operating frequency Night 36.3 ohms Day 36.3 ohms	Measured antenna or common point reactance (in ohms) at operating frequency Night + 12.7 ohms Day +12.7 ohms

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day

Manufacturer and type of antenna monitor:

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9. Description of antenna system ((f directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator Single uniform cross-section, guyed steel tower mounted on a base pier and insulator.	Overall height in meters of radiator above base insulator, or above base, if grounded. 52.4 meters	Overall height in meters above ground (without obstruction lighting) 53.5 meters	Overall height in meters above ground (include obstruction lighting) 54.5 meters	If antenna is either top loaded or sectionalized, describe fully in an Exhibit. <div>Exhibit No. NA</div>
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Excitation ☒ Series ☐ Shunt **ASR: 1244740**

Geographic coordinates to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North Latitude	42 °	55 '	50 "	West Longitude	72 °	18 '	00 "
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If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits. **The applicant would like to note the addition of the diplexed W281AU and W276CB FM Translator Antenna as noted below.**
Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system.

Exhibit No.
Vertical Plan

Exhibit No.

10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

This Form 302-AM is being filed in response to FM Translator Construction Permits BPFT-20080404AAV and BPFT-20080404AAU. Antenna impedance measurements have been made on the AM station in response to the addition of the common FM Translator antenna to the base-insulated AM radiator.

11. Give reasons for the change in antenna or common point resistance.

Non-Directional Antenna Resistance was measured to be 36.6 ohms +j 12.7 ohms after the addition of the common FM Translator antenna and feedline to the base-insulated AM radiator. Antenna impedance measurements were taken on 05/07/08 by Mr. Ken Jones. For a non-directional daytime power of 1.0 kW, the antenna base current is 5.25 amperes. For a non-directional nighttime power of 0.146 kW, the antenna base current is 2.00 amperes.

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name (Please Print or Type) Justin W. Asher	Signature (check appropriate box below) 
Address (include ZIP Code) Munn-Reese, Inc. P. O. Box 220 Coldwater, MI 49036-0220	Date May 12, 2008 Telephone No. (Include Area Code) (517) 278-7339

☐ Technical Director

☐ Registered Professional Engineer

☐ Chief Operator

☒ Technical Consultant

☐ Other (specify)

Impedance Measurements
Radio Station WZBK FAC 57227
Keene, New Hampshire
Saga Communications of New Hampshire, LLC
May 7, 2008

Frequency kHz	X_L	Resistance Ω
1190	5.08	33.8
1195	6.31	34.1
1200	7.62	34.6
1205	9.02	34.9
1210	9.26	35.2
1215	10.00	35.7
1220	12.70	36.3
1225	13.85	36.5
1230	15.41	36.9
1235	16.39	37.4
1240	17.62	37.9
1245	18.85	38.9
1250	20.25	38.6

Measurements were taken using an OIB bridge, a sweep generator and a FIM-41 as a detector. Final operating resistance was measured under full power with the OIB resulting in 36.3 ohms of resistance requiring 5.25 amperes for 1000 watts antenna input power.

Kenneth J. Jones
Broadcast Engineering Service
34 Doane Avenue
Agawam, MA

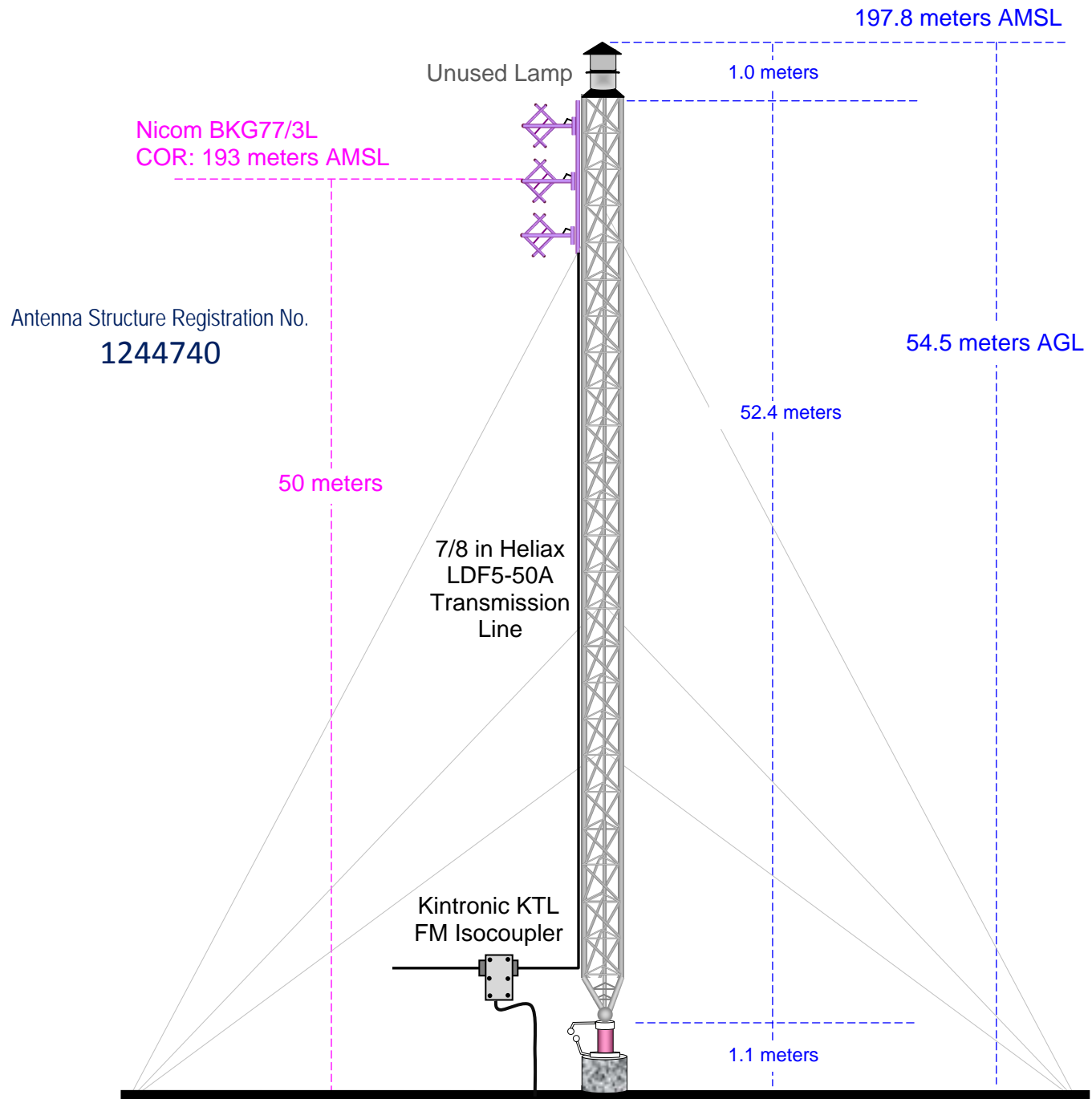
Vertical Plan of Antenna System

The site is located 0.23 mi SSW of the intersection of West Street and SR 9.
City of Keene, Cheshire County, New Hampshire

Site Location (NAD 27)

NL: 42° 55' 50"

WL: 72° 18' 00"



Ground Elevation = 143.3 m AMSL

Drawing is not to Scale

MUNN-REESE, INC.

Broadcast Engineering Consultants
Coldwater, MI 49036