

**MULLANEY ENGINEERING, INC.**

9049 SHADY GROVE COURT  
GAITHERSBURG, MD 20877

**ENGINEERING EXHIBIT EE-LIC:**

**RADIO STATION KNUI-FM  
PACIFIC RADIO GROUP, INC.  
KAHULUI, HAWAII**

**Ch. 260C 72 KW 696 M HAAT**

**OCTOBER 18, 2002**

**ENGINEERING STATEMENT IN SUPPORT OF  
A LICENSE APPLICATION FOR A  
MODIFIED FM STATION  
USING A DIRECTIONAL ANTENNA SYSTEM  
VOLUNTARY DA - NOT A 73.215**

File No. BPH-19990816ID - Facility ID: 9674

**QUESTION 7 - EXHIBIT 8 OF FCC FORM 302-FM**

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## Declaration

I, John J. Mullaney, declare and state that I am a graduate electrical engineer with a B.E.E. and my qualifications are known to the Federal Communications Commission, and that I am an principal engineer in the firm of Mullaney Engineering, Inc., and that I have provided engineering services in the area of telecommunications since 1977. My qualifications as an expert in radio engineering are a matter of record with the Federal Communications Commission.

The firm of Mullaney Engineering, Inc., has been requested by Pacific Radio Group, Inc., to prepare the instant engineering exhibit in support of a license application for FM Station KNUI-FM (FCC Facility ID Number: 9674).

All facts contained herein are true of my own knowledge except where stated to be on information or belief, and as to those facts, I believe them to be true. Information concerning the technical equipment installed and compliance with special conditions was obtained directly from the licensee. No on-site inspection of the facility by Mullaney Engineering was made. I declare under penalty of perjury that the foregoing is true and correct.

/s/ John J. Mullaney

John J. Mullaney, Consulting Engineer

Executed on the 18th day of October 2002.

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PACIFIC RADIO GROUP, INC.  
KAHULUI, HAWAII**

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**NARRATIVE STATEMENT:**

This engineering statement has been prepared on behalf of Pacific Radio Group, Inc., licensee of Radio Station KNUI-FM at Kahului, Hawaii (Facility ID 9674). The purpose of this statement is to inform the Commission that construction has been completed and that the facility complies completely with its outstanding construction permit (BPH-19990816ID). In accordance with the CP the station is waiting for Program Test Authority (CP Expires: 10/26/2002).

In accordance with the Special Operating Conditions on the construction permit, KNUI-FM coordinated the times and locations of construction such that no worker was exposed to excessive R.F. levels. The facility is in full compliance with both the “controlled” & “un-controlled” FCC Radiation Guidelines.

Table A is a summary of the technical facilities installed.

Figure 1 is a plot & tabulation of the directional horizontal plane pattern for the FM antenna which has been installed by KNUI-FM. It should be noted that the directional antenna is not being used for protection purposes. KNUI-FM is properly spaced to all other stations. Consequently, there are no limitations imposed by the C.P. Since it is NOT a 73.215 directional antenna, it is not required to provide the normal antenna pattern certification from the manufacturer.

It should be understood that KNUI-FM is using an existing master directional antenna system which is currently in use by KPOA/228C & KLHI/266C. It was originally constructed during 1997. Implementation of the KNUI-FM CP did not require any outside work or modification of the antenna itself. Thus, the assembly and orientation remain unchanged.

### **Special Conditions**

Condition 1 - KNUI-FM has used the exact antenna that was specified in the 301 application for CP. The nomenclature of 1/6 is the same as 6/1 in so far as it means 6 bays on one side of the tower. Omni FM panel antennas are typically mounted on at least 3 sides of the tower.

Condition 2 - RF Exposure measurements were taken and no areas exceeding the guidelines were found.

Condition 3 - KNUI-FM herein requests PTA.

Condition 4 - documentation of compliance with special conditions is submitted herein.

Condition 5 - Spurious measurements were taken and all emissions were in compliance with Sections 73.317(b) through 73.317(d).

### **Required Certifications**

**Appendix A** is a statement by a qualified local engineer that the antenna was (in 1997) assembled in accordance with the manufacturer's instructions. In addition spurious measurements were taken with all stations operating at rated power and that those measurements indicate full compliance with the emission criteria specified in Section 73.317(b) through 73.317(d). It is further stated that RF exposure signs are in place and no workers were exposed during construction and that no spots were found which exceed the RF Limits contained in OET-65.

**Appendix B** is a statement by the antenna manufacturer (Jampro) in which it provides the "as built" vertical pattern and certifies the power gain of the antenna. The required orientation of the directional antenna is stated to be N-310-E.

**Appendix C** is a copy of a previously filed (1997) statement from a local surveyor certifying that the antenna is oriented on a bearing of S-130-W which translates to N-310-E (130+180). The statement by the antenna manufacturer indicates that the antenna should be pointed on N-310-E. The actual and required orientations are in exact agreement.

### **SUMMARY**

Pacific Radio Group, Inc., licensee of Radio Station KNUI-FM herein files its license application indicating that construction has been completed and that **KNUI-FM is waiting program test authority.**

/s/ John J. Mullaney

John J. Mullaney, Consulting Engineer

October 18, 2002.

## Table A

### Summary of Technical Facilities Installed

<b>Call:</b>	KNUI-FM		
<b>City/State:</b>	Kahului, Hawaii		
<b>Facility ID:</b>	9674		
<b>Channel:</b>	260C	99.9 MHz	
<b>C.P. Number:</b>	BPH-19990816ID		
<b>Coordinates:</b>	20-39-36 / 156-21-50 NAD-27		
<b>Tower ASR:</b>	None Required	Mt. Haleakala at Erdman Ranch	
<b>Tip Height:</b>	61 M AGL		
<b>Antenna C.R.:</b>	52 M AGL	1387 M AMSL	696 M HAAT
<b>ERP: Max</b>	72 kW H	72 kW V	Directional
<b>Hori.</b>	69 kW H	69 kW V	Directional
<b>Antenna Make:</b>	Jampro	JAHD-6/1DA	1.02 lambda spacing
<b>OMNI:</b>	No		
<b>Ant. Gain:</b>	10.0 times power		
<b>Efficiency:</b>	90.0 %		
	Andrew HJ8-50B	3"	44.8 meters
	Branch Combiner		0.207 dB
			0.250 dB
<b>TPO:</b>	8.0 kW		