Federal Communications Commission
Washington, D. C. 20554

Approved by OMB
3060-0627
Expires 01/31/98

FOR FCC USE ONLY

FCC 302-AM
APPLICATION FOR AM BROADCAST STATION LICENSE

(Please read instructions before filling out form.)

FOR COMMISSION USE ONLY

FILE NO.

SECTION I - APPLICANT FEE INFORMATION

1. PAYOR NAME (Last, First, Middle Initial)

Radio Hawaii, Inc.

MAILING ADDRESS (Line 1) (Maximum 35 characters)

2360 NE Coachman

MAILING ADDRESS (Line 2) (Maximum 35 characters)

CITY	STATE OR COUNTRY (if foreign address)	ZIP CODE
Clearwater	FL	33765

TELEPHONE NUMBER (include area code)	CALL LETTERS	OTHER FCC IDENTIFIER (If applicable)
727-510-7622	KWAI	54613

2. A. Is a fee submitted with this application? [✔] Yes [ ] No

B. If No, indicate reason for fee exemption (see 47 C.F.R. Section

[ ] Governmental Entity [ ] Noncommercial educational licensee [ ] Other (Please explain):

C. If Yes, provide the following information:

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the "Mass Media Services Fee Filing Guide." Column (B) lists the Fee Multiple applicable for this application. Enter fee amount due in Column (C).

(A) FEE TYPE CODE	(B) FEE MULTIPLE	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
M M R	0 0 0 1	$ 725.00	

To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.

(A)	(B)	(C)	FOR FCC USE ONLY
- - -	0 0 0 1	$ -	

ADD ALL AMOUNTS SHOWN IN COLUMN C, AND ENTER THE TOTAL HERE. THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED REMITTANCE.

TOTAL AMOUNT REMITTED WITH THIS APPLICATION	FOR FCC USE ONLY
$ 725.00	

CLEAR ALL PAGES

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT Radio Hawaii, Inc.		
MAILING ADDRESS 2360 NE Coachman		
CITY Clearwater	STATE FL	ZIP CODE 33765

2. This application is for:

☑ Commercial ☐ Noncommercial

☐ AM Directional ☑ AM Non-Directional

Call letters	Community of License	Construction Permit File No.	Modification of Construction Permit File No(s).	Expiration Date of Last Construction Permit
KWAI	Honolulu, HI	BP-20180123AAG		3/12/2023

3. Is the station now operating pursuant to automatic program test authority in accordance with 47 C.F.R. Section 73.1620?

☐ Yes ☑ No

If No, explain in an Exhibit.

Exhibit No.

4. Have all the terms, conditions, and obligations set forth in the above described construction permit been fully met?

☑ Yes ☐ No

If No, state exceptions in an Exhibit.

Exhibit No. N/A

5. Apart from the changes already reported, has any cause or circumstance arisen since the grant of the underlying construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect?

☐ Yes ☑ No

If Yes, explain in an Exhibit.

Exhibit No. N/A

6. Has the permittee filed its Ownership Report (FCC Form 323) or ownership certification in accordance with 47 C.F.R. Section 73.3615(b)?

☑ Yes ☐ No

☐ Does not apply

If No, explain in an Exhibit.

Exhibit No. N/A

7. Has an adverse finding been made or an adverse final action been taken by any court or administrative body with respect to the applicant or parties to the application in a civil or criminal proceeding, brought under the provisions of any law relating to the following: any felony; mass media related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination?

☐ Yes ☑ No

If the answer is Yes, attach as an Exhibit a full disclosure of the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), and the disposition of the litigation. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 U.S.C. Section 1.65(c), the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter.

Exhibit No. N/A

CLEAR ALL PAGES

8. Does the applicant, or any party to the application, have a petition on file to migrate to the expanded band (1605-1705 kHz) or a permit or license either in the existing band or expanded band that is held in combination (pursuant to the 5 year holding period allowed) with the AM facility proposed to be modified herein? ☐ Yes ☐ No

If Yes, provide particulars as an Exhibit. Exhibit No.

The APPLICANT hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because use of the same, whether by license or otherwise, and requests and authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended).

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

CERTIFICATION

1. By checking Yes, the applicant certifies, that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, or, in the case of a non-individual applicant (e.g., corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits that includes FCC benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. Section 1.2002(b). ☑ Yes ☐ No

2. I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Name	Signature	
Radio Hawaii, Inc.		
Title: President	Date: 3/25/20	Telephone Number: 727-510-7622

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION

FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT AND THE PAPERWORK REDUCTION ACT

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended. The Commission will use the information provided in this form to determine whether grant of the application is in the public interest. In reaching that determination, or for law enforcement purposes, it may become necessary to refer personal information contained in this form to another government agency. In addition, all information provided in this form will be available for public inspection. If information requested on the form is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Your response is required to obtain the requested authorization.

Public reporting burden for this collection of information is estimated to average 639 hours and 53 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, can be sent to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3060-0627), Washington, D. C. 20554. Do NOT send completed forms to this address.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant
Radio Hawaii, Inc.

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

☑ Station License ☐ 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
KWAI	BP-20191213AAG	1080	unlimited	5.0	5.0

2. Station location

State	City or Town
HI	Honolulu

3. Transmitter location

State	County	City or Town	Street address (or other identification)
HI	Oahu	Honolulu	

4. Main studio location

State	County	City or Town	Street address (or other identification)
HI	Oahu	Honolulu	1300 Hart St., Honolulu, HI

5. Remote control point location (specify only if authorized directional antenna)

State	County	City or Town	Street address (or other identification)

6. Has type-approved stereo generating equipment been installed? ☐ Yes ☑ No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68? ☑ Yes ☐ No ☐ Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed. Exhibit No. N/A

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system	RF common point or antenna current (in amperes) without modulation for day system
11.1	11.1

Measured antenna or common point resistance (in ohms) at operating frequency		Measured antenna or common point reactance (in ohms) at operating frequency	
Night	Day	Night	Day
40.6	40.6	-11.9	-11.9

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:

SECTION III - Page 2

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	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit.
Self Supporting insulated base tower	0.8	60.2	61.0	Exhibit No.

Excitation ☑ Series ☐ Shunt

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

North Latitude	West Longitude
21 ° 19 ' 27 "	157 ° 52 ' 47 "

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits. Exhibit No.

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system. 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?

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

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)	Signature (check appropriate box below)
Ernie Nearman	Ernie Nearman
Address (include ZIP Code) 3709 Mahina Ave Honolulu, HI, 96816	Date 3/18/2020
	Telephone No. (Include Area Code) 808-306-2851

☐ Technical Director

☐ Registered Professional Engineer

☐ Chief Operator

☑ Technical Consultant

☐ Other (specify)

Engineering Brief: KWAI – AM Matching and Filter Networks

Executive Summary

KWAI – AM has been either off-air or under STA authorizations for a considerable length of time, due to a combination of both technical and legal issues. As a pre-requisite for the sale of this station, efforts have been in play for a number of months to enable this station to regain normal operating conditions, and to be able to operate under a full license authorization.

After several Engineering Site Visits to the transmitter site, located on Hart Street in Honolulu, the operating conditions have been restored as needed to apply for a renewed license. In order to accomplish this, all of the networks associated with this station (matching and filter networks) have been redesigned and rebuilt into proper aluminum cabinets, replacing the networks and cabinets which have been in use for many years.

The present "Engineering Brief" summarizes the final data collected after the changes were implemented, particularly the engineering data needed to support the filing of Form 302-AM needed to apply for an updated license from the FCC.

As is reported in greater detail in the present report, the data to be presented in Form 302-AM for the license application are:

Impedance (at point of current monitoring): 40.6 -j11.9 Ohms
Base current corresponding to full power: 11.1 Amps

Data

Measurements of impedance were made with an HP 8751A Network Analyzer in conjunction with an ENI 300-LA RF Amplifier and Tunwall Radio directional coupler in a calibrated setup.

An initial tower impedance measurement on carrier frequency was made at the final output J-plug in the old cabinet that was ultimately replaced. Measurements of the matching network output point were made at the carrier and sideband frequencies, while only the carrier frequency measurement is required for purposes of reporting the "Direct Measurement of Power" to the FCC on their Form 302-AM. Input match impedance measurements were made at the input J-plug of the new system of cabinets after all network adjustments were complete.

Measurements of spurious emissions potentially caused by the operation of this station were made using both an Potomac FIM-41 Field Intensity Meter and a Rigol DSA 815 Spectrum Analyzer in conjunction with a Belar loop receiving antenna. The FIM-41 instrument was also used to take the required measurement of signal strength at the FCC monitoring station.

Impedance Measurement Data for KWAI (1080 kHz) – 5.0 kW

A measurement sweep of impedances was collected at the output side of the matching network (between the matching network and the system of filters), near where the current sampling toroid is located. These measurements, taken at carrier and the +/- 15 kHz sideband frequencies in 5 kHz intervals, appear in the "Output Impedance" column in the data table below. The tower impedance was measured at the output J-plug of the old cabinet, only on carrier frequency, used only as a "cross check" against prior measurements. After the networks were tuned, the input impedance and SWR was measured at the same sweep of frequencies, as shown in the table.

Freq. (kHz)	Tower Impedance	Output Impedance	Input Impedance	SWR
1065		83.6 + j5.9	23.5 – j3.0	2.14
1070		70.9 – j8.0	28.9 + j0.8	1.74
1075		54.7 – j13.6	37.4 + j3.6	1.35
1080	29.87 – j24.9	40.6 – j11.9	50.0 + j0.5	1.02
1085		30.3 – j6.7	60.8 – j13.6	1.37
1090		23.1 + j26.8	55.8 – j35.2	1.95
1095		18.1 + j7.6	36.5 – j44.6	2.83

Base Current Calculations

The licensed power level for KWAI is 5,000 W for both day and night operations. The FCC allows operation within the range of 10% below to 5% above the nominal power level values.

Operation	Level	Power (W)	Current (A)
Day/Night	- 10%	4,500	10.53
	Nominal	5,000	11.10
	+ 5%	5,250	11.37

For purposes of reporting on the Form 302-AM, the base impedance is 40.6 – j11.9 Ohms, and the nominal base current corresponding to full operating power is 11.1 Amps.

Filter Adjustments and Measurements of Filter Response

KWAI transmits on a tower shared by three other AM stations, and in the very near vicinity (0.25 miles) of another tower on which three additional AM stations operate. These stations are as follows:

On the same tower:

KNDI – 1270 kHz, 5 kW
KKEA – 1420 kHz, 5 kW
KREA – 1540 kHz, 5 kW

On the adjacent tower:

KSSK – 590 kHz, 5 kW
KHVH – 830 kHz, 10 kW
KIKI – 990 kHz, 7.5 kW

The updated design of the KWAI networks included filters to reject all of these frequencies, with each filter mounted in a separate partitioned compartment in the KWAI cabinets, to provide adequate isolation for each filter.

Each filter was independently tuned so as to provide a maximum isolation at the respective reject frequencies. The amount of isolation for each reject frequency was measured, with the results presented below. For the stations operating on the adjacent tower, the actual degree of isolation is greater than what could be measured, since these stations were still operating, and presenting an interfering signal to the measurement.

590 kHz:	-48.8 dB	(shunt filter)
830 kHz:	-48.1 dB	(shunt filter)
990 kHz:	-24.2 dB	(series filter)
1270 kHz:	-38.4 dB	(one series filter and one shunt filter)
1420 kHz:	-42.9 dB	(series filter)
1540 kHz:	-42.8 dB	(series filter)

It should also be noted that at the time of these measurements, even with the 1270 station off the air, there was still an interfering signal on that frequency, making the reading (as measured) appear to indicate significantly less isolation than the "true" reading would have been. This would, in general, also be the case for the three frequencies (viz., 590 kHz, 830 kHz and 990 kHz) operating from the nearby tower, since these stations were not turned off during these proceedings.

Measurements of Possible Spurious Emissions

The intermodulation frequency combinations of the four stations operating on the KWAI tower were calculated up to fourth order combinations. This resulted in 55 separate frequencies between 530 kHz and 5 MHz, 15 of which fall within the AM band. For those 15 frequencies, a measurement was made using the FIM-41. For many of these frequencies, there was a significant signal, with audio content that was easily identified as being from a source other than one of the four stations of interest. For the 40 remaining intermodulation frequencies falling above the AM band up to 5 MHz, the spectrum analyzer with an external loop antenna was used to find all signals appearing above the noise floor, and observing their behavior with the KWAI (1080 kHz) station on, and then off, the air. These observations were made using a span of 1000 kHz with center frequencies of 1080, 2080, 3080, 4080 and 5080 kHz. In no case was there a signal which was present as a result of a combination with the 1080 kHz transmission.

For reference, the following frequencies were observed (see table below). For the frequencies falling within the AM band, observations are also provided as to the actual measurement of signal strength, where applicable, and the identification of the audio source, where appropriate.

Frequency	Observation
540 kHz	no measurable signal
620 kHz	KIPA
680 kHz	strong sideband signal from KHNR on 690 kHz
740 kHz	0.6 mV/m, with audio identified as KCIK (on Maui)
890 kHz	36 mV/m, with audio from KHCM on 880 kHz
920 kHz	0.025 mV/m, picking up sideband from audio on 910 kHz
1000 kHz	0.3 mV/m, with audio from KIKI on 990 kHz (strong sideband signal)
1080 kHz	KWAI unmodulated carrier reading: 0.15 V/m
1120 kHz	1.8 mV/m, with audio from 1420 kHz station. This reading unchanged with KWAI 1080 off air.
1270 kHz	KNDI unmodulated carrier reading: 0.24 V/m
1300 kHz	0.024 mV/m
1420 kHz	KKEA unmodulated carrier reading: 0.29 V/m
1460 kHz	5.4 mV/m, with audio from KREA (1540 kHz). This reading unchanged with KWAI off the air.
1540 kHz	KREA unmodulated carrier reading: 0.28 V/m
1570 kHz	.05 - .06 mV/m, with no recognizable audio.

The calculated intermodulation frequencies above 1600 kHz were as follows:

1660 (kHz)	3240	4380
1760	3430	4500
1810	3580	4620
2000	3620	4700
2160	3700	5000
2350	3810	5080
2500	3920	5240
2540	3960	5380
2620	4080	5620
2690	4110	5680
2810	4160	5920
2840	4260	6160
2960	4320	
3080	4350	

Measurement at the FCC Monitoring Station:

On March 19th the KWAI AM field strength measurement at the FCC monitoring station in Waipahu, Hawaii was conducted at three points, 10 feet apart, including the FCC agent's 'designated' spot using a Potomac FIM-41 field strength meter.
The maximum reading obtained at 1080 KHz was 20 mv/m, the minimum 18 mv/m at 1080 KHz with station confirmed to be operating at a licensed power of 5 KW.

The foregoing data indicate compliance with the technical requirements specified in the KWAI Construction Permit.

Rob Elder
Compliance Matters, Inc.

Ernie Nearman,
Broadcast Resources Company

19 March 2020

AGREEMENT

This Agreement, dated as of this 24th day of March, 2020, is entered into by and among Radio Hawaii, Inc. ("Radio Hawaii"), JMK Communications, Inc. ("JMK"), Geronimo Broadcasting LLC ("Geronimo Broadcasting") and Blow Up, LLC. ("Blow Up") (individually, a "Party," and, collectively, the "Parties").

RECITALS:

WHEREAS, Radio Hawaii is the licensee of AM Radio Station KWAI, Honolulu, Hawaii (Facility ID No. 54613);

WHEREAS, JMK is the license of AM Radio Station KREA, Honolulu, Hawaii (Facility ID No. 39773);

WHEREAS, Geronimo Broadcasting LLC is the licensee of AM Station KNDI, Honolulu, Hawaii (Facility ID No. 37065);

WHEREAS, Blow Up is the licensee of AM Station KKEA, Honolulu, Hawaii (Facility ID No. 34551);

WHEREAS, KWAI, KKEA, KNDI and KREA all share the same AM tower and are part of a four-station combined antenna arrangement which has been in place for over 30 years;

WHEREAS, KWAI has been granted a construction permit (BP-20191213AAG) issued by the Federal Communications Commission (the "FCC" or "Commission") with a special operating condition that a firm agreement be entered into by the four AM stations fixing the responsibility of each with regard to the installation and maintenance of filters, traps and other equipment which has been installed to prevent interaction, intermodulation and/or generation of spurious radiation products which could be caused by common usage of the same antenna system by the stations;

WHEREAS, in order to satisfy the FCC condition, the Parties have agreed to the terms and conditions set forth in this Agreement regarding the installation and maintenance of antenna equipment.

NOW, THEREFORE, in consideration of the mutual covenants, agreements and representations contained herein, the Parties, intending to be legally bound, hereby agree as follows:

1.The Parties agree that each shall be responsible for one-fourth of the monthly operating and maintenance expenses of the tower.

2.The Parties further agree that, with respect to any site improvement, including, but not limited to, the tower, ground system or transmitter building, as well as maintenance or repairs as prescribed by the Commission's rules and regulations, the cost of same will be pro-rated between the Parties. Such expenses will be paid immediately upon receipt of a bill. Similarly, the cost of installation, adjustment and maintenance of traps, filters and other equipment which has been installed and adjusted to prevent interaction, intermodulation and/or generation of spurious radiation products which may be caused by common usage of the same antenna system by the Parties shall be pro-rated between the Parties.

3.Each Party will bear its own expenses in connection with the establishment of its station's operation or modification of its transmitter and antenna, including, but not limited to, necessary modifications to its station's antenna and transmitter building and the preparation of applications, data or other material which it may be required to file with the Commission as a result of such modifications to its station's facilities or equipment.

4.In the event there is any degradation in the broadcast signal of a station sharing the antenna in the opinion of the FCC or Ernie Nearman (or his replacement Chief Engineer)

resulting from interference by a station sharing use of the tower, that interfering station, upon the written request of the other stations, at its expense, shall take such action as may be necessary to eliminate such signal degradation. If necessary, the station shall terminate broadcasting until any degradation problem shall be cured.

[*Signature page follows*]

IN WITNESS WHEREOF, each of the Parties hereto has caused this Agreement to be executed as of the date first written above.

RADIO HAWAII, INC.

By: _____
Name: Lola Wagenvoord
Title: President

JMK COMMUNICATIONS, INC.

By: _____
Name: Grant Chang
Title: President

BROADCAST HOUSE OF THE PACIFIC, INC.

By: _____
Name: Geronimo Malabed Jr.
Title: President

BLOW UP, LLC

By: _____
Name: Chris Hart
Title: Manager

IN WITNESS WHEREOF, each of the Parties hereto has caused this Agreement to be executed as of the date first written above.

RADIO HAWAII, INC.

By: _____
Name: Lola Wagenvoord
Title: President

JMK COMMUNICATIONS, INC.

By: _____
Name: ~~Grant Chang~~ JAE MIN CHANG
Title: ~~President~~ SECRETARY

BROADCAST HOUSE OF THE PACIFIC, INC.

By: _____
Name: Geronimo Malabed Jr.
Title: President

BLOW UP, LLC

By: _____
Name: Susan Eichor
Title: Manager

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RADIO HAWAII, INC.

By: _____
Name: Lola Wagenvoord
Title: President

JMK COMMUNICATIONS, INC.

By: _____
Name: Grant Chang
Title: President

GERONIMO BROADCASTING, INC.

By: Geronimo Malabed Jr.
Name: Geronimo Malabed Jr.
Title: Owner

BLOW UP, LLC

By: _____
Name: Chris Hart
Title: Manager

IN WITNESS WHEREOF, each of the Parties hereto has caused this Agreement to be executed as of the date first written above.

RADIO HAWAII, INC.

By: _____
Name: Lola Wagenvoord
Title: President

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Title: President

BROADCAST HOUSE OF THE PACIFIC, INC.

By: _____
Name: Geronimo Malabed Jr.
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BLOW UP, LLC

By: _____
Name: Susan Eichor
Title: Manager