ACCEPTANCE REVIEW MEMO (ARM)

Licensee: Aloha Animal Hospital Associates **License No.:** 53-27663-01

Docket No.: 030-35361 **Mail Control No.:** 471507

Type of Action: Term **Date of Requested Action:** 09-18-07

Reviewer Assigned: **ARM reviewer(s):** Torres

Response	Deficiencies Noted During Acceptance Review
	[ ] Open ended possession limits. Limit possession. Submit inventory. [ ] Submit copies of most recent leak test results. [ ] Add - delete IC license condition. Add IC paragraph in cover letter. [ ] Split license from cover letter. Add SUNSI marking to license. [ ] Ask the licensee if they have any type-amount of EPAct Material.

Reviewer's Initials: _____ **Date:** _____

☐Yes ☐No Unrestricted release Group 2 or >: Transfer memo to FCDB within 10 days.

☐Yes ☐No Decommissioning notification should be completed within 30 days.

☐Yes ☐No Termination request < 90 days from date of expiration

☐Yes ☐No Expedite (medical emergency, no RSO, location of use/storage not on license, RAM in possession not on license, other)

☐Yes ☐No TAR needed to complete action.

Branch Chief's and/or Sr. HP's Initials: _____ **Date:** _____

SUNSI Screening according to RIS 2005-31

☐Yes ☑No **Non-Publicly Available, Sensitive** if any item below is checked

General guidance:

_____RAM = or > than Category 3 (Table 1, RIS 2005-31), use Unity Rule
_____Exact location of RAM (whether = or > than Category 3 or not)
_____Design of structure and/or equipment (site specific)
_____Information on nearby facilities
_____Detailed design drawings and/or performance information
_____Emergency planning and/or fire protection systems

Specific guidance for medical, industrial and academic (above Category 3):

_____RAM quantities and inventory
_____Manufacturer's name and model number of sealed sources & devices
_____Site drawings with exact location of RAM, description of facility
_____RAM security program information (locks, alarms, etc.)
_____Emergency Plan specifics (routes to/from RAM, response to security events)
_____Vulnerability/security assessment/accident-safety analysis/risk assess
_____Mailing lists related to security response

Branch Chief's and/or Sr. HP's Initials: RLR **Date:** SEP 21 2007

Pre-Licensing Screening

Applicant Information: **Control No.** 471507

Name: Aloha Animal Hospital Associates	Type of Request: Term Program Code(s): 02400
Location: HI	License No.: 53-27663-01 Docket No.: 030-35361

STEP 1–Radioactive Materials and Quantities Requested:

		Yes or No
Instructions for Step 1: **Complete Step 1 for all applications**. If all your responses in Step 1 are "No" then do not complete Step 2 (Screening Criteria). Sign and date the completed step-sheet and add it as the sensitive and non-publicly available OAR in ADAMS. If a "yes" response is indicated for any item in Step 1, also complete Step 2. If the type of use is subject to a Security Order or the requirements for increased controls, complete Step 3 (Item A or Item B) without delay.		
A.	The request is from a new applicant.	No
B.	NUREG-1556, Volume 20, Section 4.9 indicates a licensing site visit is needed for the requested type of use, e.g., (1) Type A broad scope license, (2) panoramic irradiator containing > 10000 curies, (3) manufacturers or distributors using unsealed radioactive material or significant quantities of sealed material, (4) radioactive waste brokers, (5) radioactive waste incinerators, (6) commercial nuclear laundries, and (7) any other application that in the judgement of the reviewer and cognizant supervisor involves complex technical issues, complex safety questions, or unprecedented issues that warrant a site visit.	No
C.	The applicant requested certain radionuclides and quantities that equal or exceed the Risk Significant Quantity (TBq) values in the table, below, that have been **"highlighted"** by the reviewer	No

Table of Risk Significant Quantities

(Category 2 Quantities, IAEA Safety Guide No. RS-G-1.9, Categorization of Radioactive Sources, August 2005)

Radionuclide	Risk Significant Quantity (TBq[1])	Risk Significant Quantity (Ci[1])	Radionuclide	Risk Significant Quantity (TBq[1])	Risk Significant Quantity (Ci[1])
Am-241	0.6	16	Pm-147	400	11,000
Am-241/Be	0.6	16	Pu-238	0.6	16
Cf-252	0.2	5.4	Pu-239/Be	0.6	16
Cm-244	0.5	14	Ra-226[2]	0.4	11
Co-60	0.3	8.1	Se-75	2	54
Cs-137	1	27	Sr-90 (Y-90)	10	270
Gd-153	10	270	Tm-170	200	5,400
Ir-192	0.8	22	Yb-169	3	81

[1] The primary values are TBq. The curie (Ci) values are for informational purposes only.

[2] The Atomic Energy Act, as amended by the Energy Policy Act of 2005, authorizes NRC to regulate Ra-226 and NRC is in the process of amending its regulations for discrete sources of Ra-226.

	Yes , No, or Not Applicable (NA)
Calculations of the Total Activity or the Unity Rule are attached to document whether or not the screening criteria in Step 2 were also completed to evaluate the application. **NOTE–If an amendment of an existing license is being requested, the calculations will include the previously authorized quantities for the radionuclide(s).**	
Total Activity–multiple activities are requested for a single radionuclide and the sum of the activities equals or exceeds the quantity of concern for the radionuclide	—
Unity Rule--multiple radionuclides are requested and the sum of the ratios equals or exceeds unity, e.g.,[(total activity for radionuclide A) ÷ (risk significant quantity for radionuclide A)] + [(total activity for radionuclide B) ÷ (risk significant quantity for radionuclide B)] ≥ 1.0.	—

Signature and Date for Step 1:

RLE SEP 21 2007

License Reviewer and Date

Aloha Animal Hospital Associates
4224 Waialae Avenue • Honolulu, Hawaii 96816
Phone (808) 734-2242 • Fax (808) 732-0682
E-mail alohavet@aol.com

SEP 19 2007

September 18, 2007

U.S. Nuclear Regulatory Commission, Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

Subject: License Termination Request
NRC License No. 53-27663-01
Docket No. 030-35361

Dear License Reviewer:

We are requesting the termination of our byproduct materials license. Radioactive materials have not been received or used for the past six months. The decommissioning survey has identified no residual contamination above minimum detectable levels. The decommissioning survey report and NRC Form 314 are enclosed.

Please contact our Radiation Safety Consultant, Ronald Frick at 808-373-7009, if you require additional information.

Sincerely,

Douglas Chang, DVM
Radiation Safety Officer

Enclosures

ML 471507

AAHA AMERICAN ANIMAL HOSPITAL ASSOCIATION

NRC FORM 314 (6-2004) 10 CFR 30.36(j)(1), 40.42(j)(1); 70.38(j)(1), and 72.54(j)(1)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0028 EXPIRES: 06/30/2007

Estimated burden per response to comply with this mandatory collection request: 30 minutes. This submittal is used by NRC as part of the basis for its determination that the facility is released for unrestricted use. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0028), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

CERTIFICATE OF DISPOSITION OF MATERIALS

LICENSEE NAME AND ADDRESS

Aloha Animal Hospital Associates
4224 Waialae Avenue
Honolulu, HI 96816

LICENSE NUMBER: 53-27663-01

DOCKET NUMBER: 030-35361

LICENSE EXPIRATION DATE: 08/31/2010

A. LICENSE STATUS *(Check the appropriate box)*

☐ This license has expired. ☑ This license has not yet expired; please terminate it.

B. DISPOSAL OF RADIOACTIVE MATERIAL

(Check the appropriate boxes and complete as necessary; if additional space is needed, provide attachments)

The licensee, or any individual executing this certificate on behalf of the licensee, certifies that:

☐ 1. No radioactive materials have ever been procured or possessed by the licensee under this license.

☑ 2. All activities authorized by this license have ceased, and all radioactive materials procured and/or possessed by the licensee under this license number cited above have been disposed of in the following manner.

☑ a. Transfer of radioactive materials to the licensee listed below:
Gamma Corporation, License No. 53-23207-01 (transfer of Cs-137 and Ba-133 check sources < 1 uCi)

☐ b. Disposal of radioactive materials:

1. Directly by the licensee:

SEP 19 2007

☐ 2. By licensed disposal site:

☐ 3. By waste contractor:

☑ c. All radioactive materials have been removed such that any remaining residual radioactivity is within the limits of 10 CFR Part 20, Subpart E, and is ALARA.

C. SURVEYS PERFORMED AND REPORTED

☑ 1. A radiation survey was conducted by the licensee. The survey confirms:

☐ a. the absence of licensed radioactive materials

☑ b. that any remaining residual radioactivity is within the limits of 10 CFR 20, Subpart E, and is ALARA.

☑ 2. A copy of the radiation survey results:

☑ a. is attached; or ☐ b. is not attached (Provide explanation); or c. was forwarded to NRC on: ____ Date ____

☐ 3. A radiation survey is not required as only sealed sources were ever possessed under this license, and

☐ a. The results of the latest leak test are attached; and/or ☐ b. No leaking sources have ever been identified.

The person to be contacted regarding the information provided on this form:

NAME	TITLE	TELEPHONE (Include Area Code)	E-MAIL ADDRESS
Ronald Frick	Consultant	(808) 373-7009	rfrick@gammacorp.cor

Mail all future correspondence regarding this license to:
4224 Waialae Avenue, Honolulu, HI 96816

C. CERTIFYING OFFICIAL

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

PRINTED NAME AND TITLE	SIGNATURE	DATE
Douglas Charng, DVM		9/18/07

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECT. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

471507

Gamma Corporation
850 West Hind Drive #214, Honolulu, HI 96821
Phone (808) 373-7009
FAX (808) 373-7017

Decommissioning Survey

Facility: Aloha Animal Hospital Associates

Address: 4224 Waialae Avenue
Honolulu, HI 96816

Survey Area: I-131 Restricted Area

Survey date: September 12, 2007

Performed by: Ronald Frick, M.S., CHP, DABR

Background: This area was used for the administration of I-131 NaI to cats for treatment of hyperthyroidism. Injections were performed on the exam table within this room, and cats were held within the cages. Radioactive waste was also stored within this room. Radioactive materials have not been used in this area for more than 6 months (greater than 20 half-lives for I-131) preceding this survey. The facility is planning to terminate their NRC license.

Instrumentation: Initial scan surveys were performed with a Bicron Microrem survey meter. This meter contains a tissue-equivalent organic scintillator which can measure environmental levels of 0-20 µrem/hr. Background for this meter is approximately 5 µrem/hr. This meter was last calibrated on 5/3/2007 (see enclosed certificate).

Scan surveys were also performed with a Bicron Analyst survey meter with a 100 cm^2 B-100 beta scintillation probe. The detection efficiency for Sr-90 betas is 44%, as measured using a NBS traceable 0.024 µCi Sr-90 planchette source (NES-261, lot #261031484). The average background count rate is 300 cpm. Assuming the surveyor can discriminate 100 cpm above natural background, the minimum detectable activity for scan surveys is 227 dpm/100 cm^2. This meter was last calibrated on 4/22/2007 (see enclosed certificate).

Wipe samples were analyzed with the Capintec Caprac NaI well counter located at the facility. The detection efficiency for I-131 gammas is 88%, as measured with a Ba-133 standard. Average background for the counter is 334 cpm. For a 20 second count, minimum detectable activity is 173 dpm. The following MDA formula was used:

$$MDA(dpm) = \frac{2.71 + 4.65\sqrt{CR_B}}{\varepsilon\sqrt{t}}$$

Since wipes were taken over a 300 cm^2 area, the MDA for each wipe sample is 58 dpm/100 cm^2. Efficiency determinations are attached.

Survey Guidelines: The Radiological Criteria for License Termination (10 CFR 20, Subpart E), states that "A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 25 mrem per year, including that from groundwater sources of drinking water, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable". NUREG 1757, Vol. 1 lists acceptable screening values for several long-lived nuclides, but does not specify screening values for the short lived materials used at this facility. Previous NRC draft guidance (NUREG-1500, *Working Draft Regulatory Guide on Release Criteria for Decommissioning*), provided tables which list the residual surface concentrations in dpm/100 cm^2 for radionuclides which would result in a TEDE of less than 3 mrem/year for a building occupancy scenario. For the unsealed materials used at this hospital, I-131 has the most restrictive concentration (101,000 dpm/100 cm^2). However, to maintain doses ALARA, a screening value of 2,000 dpm/100 cm^2 has been set, which is the in-house survey trigger level.

Description: Scan surveys were performed of all floors, walls and doors within the storage area.

Wipe samples were taken in the numbered locations indicated on the attached survey diagram. All wipe samples were taken over a minimum area of 300 cm^2.

Results: The initial scan survey with the Bicron Microrem survey meter found no radiation levels distinguishable from background.

The initial scan survey with the Bicron Analyst and B-100 beta scintillation probe found no radiation levels distinguishable from background.

Wipe samples taken in all areas revealed no contamination above the minimum detectable activity of 58 dpm/100 cm^2. Tabulated wipe sample analysis results are attached.

Conclusion: Residual contamination within this area is far below the levels which would result in a member of the critical group receiving a TEDE greater than 25 mrem/year. Residual contamination is also below the ALARA levels published in NRC guidance documents. It is recommended that this facility be released for unrestricted use.

Efficiency Determination - Scan Surveys

Sr-90 Planchette, activity = 0.024 µCi, Cal. 3/14/84
Activity on 4/23/07 = 0.0138 µCi
Beta yield = 2 betas/disintegration (Sr-90 + Y-90)
Measured cpm = 26870 cpm

$$Detection\ Efficiency = \frac{26870\ cpm}{0.0138\ \mu Ci \times 2.22x10^{6}\ dpm/\mu Ci \times 2\ betas/dis.}$$

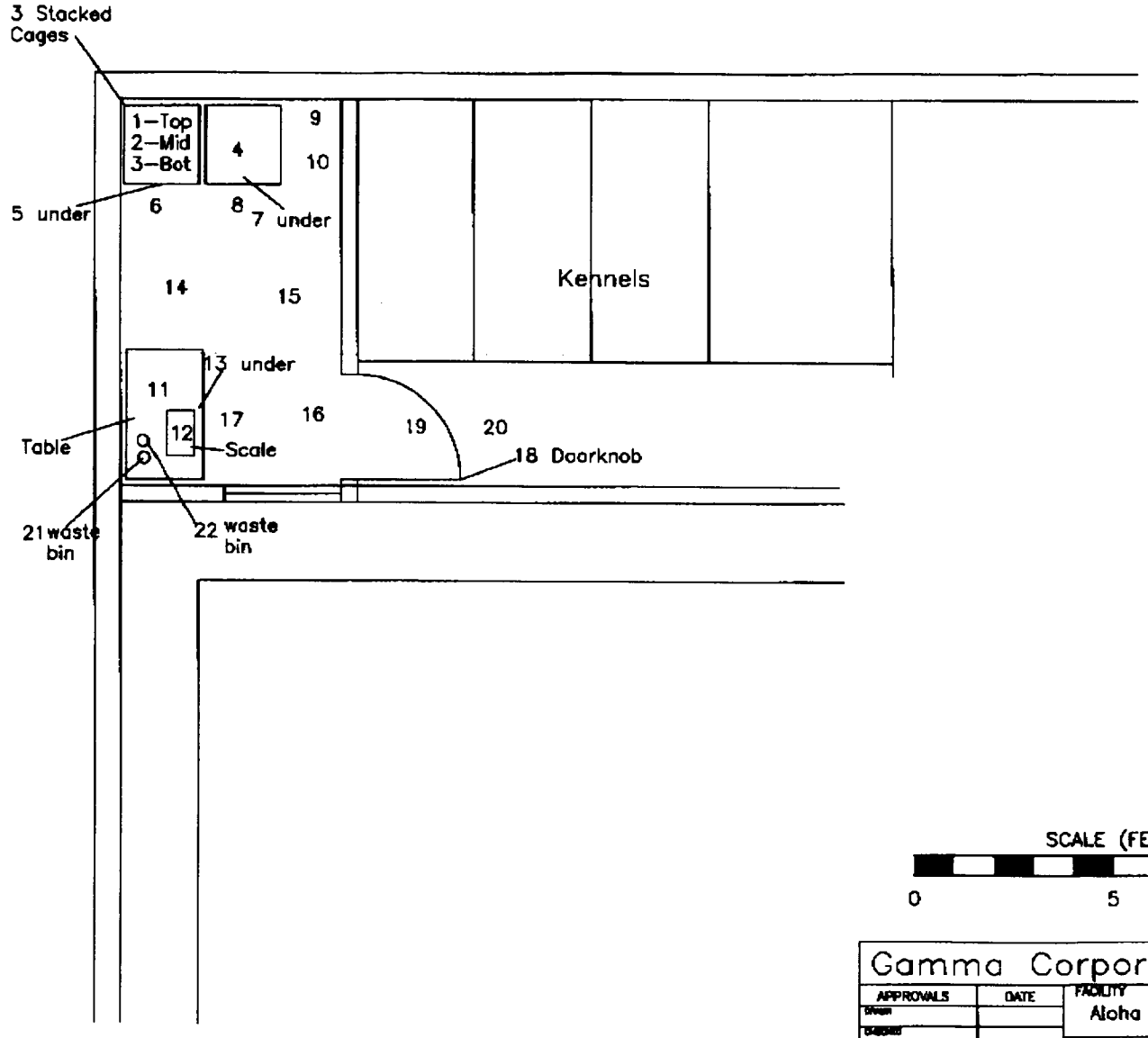
Detection Efficiency = 0.44

Efficiency Determination - Well Counter

Ba-133 Standard activity = 0.118 µCi, Cal. 2/25/82
Activity on 9/12/07 = 50321 dpm
Measured cpm = 44560
Detection efficiency = 88%

Gamma Wipe Test Results

Wipe Number	Net cpm	Net dpm/100 cm^2	Wipe Number	Net cpm	Net dpm/100 cm^2
1	0	<58	12	0	<58
2	0	<58	13	6	<58
3	39	<58	14	6	<58
4	0	<58	15	0	<58
5	9	<58	16	0	<58
6	9	<58	17	0	<58
7	54	<58	18	0	<58
8	54	<58	19	27	<58
9	0	<58	20	0	<58
10	0	<58	21	9	<58
11	0	<58	22	9	<58



SCALE (FEET)

0 5 10

Gamma Corporation
850 W Hind Dr #214
Honolulu, HI 96821

APPROVALS	DATE
R. Frick	

FACILITY: Aloha Animal Hospital Associates

ROOM: I-131 Restricted Area

Certificate of Calibration

Facility	Gamma Corporation	Dept.		Batteries ■ OK ☐ Replaced
Mfgr/Model	Bicron Analyst	S/N	B798M	Probe B-100	Detector Voltage 895

☐ Calibrated with Cs-137 radiation source with NIST traceable output: 44.8 mR/hr @ 1 meter on 10/6/95.
☐ Calibrated with electronic pulser for scales below 0.1 mR/hr.
☒ Calibrated with electronic pulser for all scales.

Range (cpm)	Calculated Value	As Found Value	Accepted Value	Correction Factor	Corrected Value	% Error
X1000	400000	400000	400000	1.0	400000	0%
X1000	100000	100000	100000	1.0	100000	0%
X100	40000	40000	40000	1.0	40000	0%
X100	10000	10000	10000	1.0	10000	0%
X10	4000	4000	4000	1.0	4000	0%
X10	1000	1000	1000	1.0	1000	0%
X1	400	390	390	1.0	390	3%
X1	100	100	100	1.0	100	0%

Detector Type ☐ G.M. ■ Plastic Scint. ☐ NaI Scint. ☐ Proportional ☐ Ion Chamber

Detector Exposure Orientation ☐ Parallel ■ Perpendicular ☐ Internal

Condition Received ■ In tolerance ☐ Out of tolerance

Comments: Sr-90 efficiency = 44% C-14 efficiency = 5.6%, Check source 0.24 uCi, Threshold 2.8 mV

Calibrated by: _____

Review: _____ Date: 4/24/07

Check Source Reading	Sr-90 = 27,103 cpm
Calibration Date	April 23, 2007
Calibration Due	April 22, 2008

Acceptable tolerance is stated as ±10% of calculated value at each calibration point.

Gamma Corporation
850 West Ilind Drive, Suite 214, Honolulu, HI 96821

Certificate of Calibration

Facility	Gamma Corporation	Dept.		Batteries ■ OK ☐ Replaced
Mfgr/Model	Bicron Microrem	S/N	A764Z	Probe		Detector Voltage	OK

☒ Calibrated with Cs-137 radiation source with NIST traceable output: 44.8 mR/hr @ 1 meter on 10/6/95.
☐ Calibrated with electronic pulser for scales below 0.1 mR/hr.
☐ Calibrated with electronic pulser for all scales.

Range (uR/hr)	Calculated Value	As Found Value	Accepted Value	Correction Factor	Corrected Value	% Error
X1000	160000	165000	165000	1.0	165000	3%
X1000	40000	36000	36000	1.0	36000	10%
X100	16000	16000	16000	1.0	16000	0%
X100	4000	3750	3750	1.0	3750	6%
X10	1600	1600	1600	1.0	1600	0%
X10	400	400	400	1.0	400	0%
X1	160	160	160	1.0	160	0%
X1	40	44	44	1.0	44	10%
X0.1	4	4	4	1.0	4	0%

Detector Type ☐ G.M. ■ Plastic Scint. ☐ NaI Scint. ☐ Proportional ☐ Ion Chamber

Detector Exposure Orientation ☐ Parallel ☐ Perpendicular ■ Internal

Condition Received ■ In tolerance ☐ Out of tolerance

Comments: Background of 5 urem subtracted from readings on X1 and X0.1 scales.

Calibrated by: [signature]

Review: [signature] Date: 5/8/07

Check Source Reading	5000 urem/hr
Calibration Date	May 04, 2007
Calibration Due	May 03, 2008

Acceptable tolerance is stated as ±10% of calculated value at each calibration point.

Gamma Corporation
850 West Hind Drive, Suite 214, Honolulu, HI 96821

Aloha Animal Hospital Associates
4224 Waialae Avenue • Honolulu, Hawaii 96816
Phone (808) 734-2242 • Fax (808) 732-0682
E-mail alohavet@aol.com

FAX COVER SHEET

Send to: NRC	**From:** Jernel Miyamoto-- Practice Manager
Attention Nuclear Materials Licensing Branch	Date: Sept 18, 2007
Office location	Office location
Fax number: 1-817-860-8263	Phone number

Urgent **Reply ASAP** **Please comment** **Please review** **For your information**

Please call Jernel **at (808) 734-2242 if you do not receive** 8 **pages (including this cover letter). Thank you.**

Comments:

License termination request documents

M 471507

AAHA AMERICAN ANIMAL HOSPITAL ASSOCIATION

SEP-18-2007 13:15 From:808 7320682 Page:1/9

SEP 21 2007

DATE

This is to acknowledge the receipt of your letter/application dated 9-18-07, and to inform you that the initial processing, which includes an administrative review, has been performed.

☒ There were no administrative omissions. Your application will be assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card:

The action you requested is normally processed within 90 days.

☐ A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 471507.
When calling to inquire about this action, please refer to this mail control number.
You may call me at 817-860-8103.

Sincerely,

Colleen Marnahan

Licensing Assistant

NRC FORM 532 (RIV)
(10-2006)

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 02400
Status Code: O
Fee Category: 3P
Exp. Date: 20100831
Fee Comments: _____
Decom Fin Assur Reqd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
   Applicant/Licensee: ALOHA ANIMAL HOSPITAL ASSOCIATES
   Received Date: 20070919
   Docket No: 3035361
   Control No.: 471507
   License No.: 53-27663-01
   Action Type: Termination

2. FEE ATTACHED
   Amount: /
   Check No.: /

3. COMMENTS

Signed Colleen Murnahan
Date 9-19-07

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /__/)

1. Fee Category and Amount: _____

2. Correct Fee Paid. Application may be processed for:
   Amendment _____
   Renewal _____
   License _____

3. OTHER _____
   _____

Signed _____
Date _____