

## ACCEPTANCE REVIEW MEMO (ARM)

Licensee: Pacific Cardiology, LLC

License No.: 53-27747-01

Docket No.: 030-36196

Mail Control No.: 471080

Type of Action: Amend

Date of Requested Action: 08-09-06

Reviewer  
Assigned:

ARM reviewer(s): Torres

*ATC*

Response	Deficiencies Noted During Acceptance Review
	<ul style="list-style-type: none"><li>[ ] Open ended possession limits. Limit possession. Submit inventory.</li><li>[ ] Submit copies of most recent leak test results.</li><li>[ ] Add - delete IC license condition. Add IC paragraph in cover letter.</li><li>[ ] Split license from cover letter. Add SUNSI marking to license.</li><li>[ ] Ask the licensee if they have any type-amount of EPAct Material.</li></ul>

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) *Licensee request*
- ☐ Yes ☐ No TAR needed to complete action.

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

Date: *8/18/06*

### 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: *ATC*

Date: *8/18/06*

## Pre-Licensing Screening

### Applicant Information:

Control No. 471080

Name: Pacific Cardiology, LLC	Type of Request: Amend Program Code(s):	
Location: HI	License No.: 53-27747-01	Docket No.: 030-36196

### STEP 1—Radioactive Materials and Quantities Requested:

<b>Instructions for Step 1: Complete Step 1 for all applications.</b> 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.		Yes or No
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

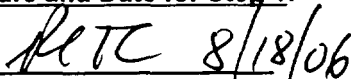
(Category 2 Quantities, IAEA Safety Guide No. RS-G-1.9, Categorization of Radioactive Sources, August 2005)

Radionuclide	Risk Significant Quantity (TBq <sup>1</sup> )	Risk Significant Quantity (Ci <sup>1</sup> )	Radionuclide	Risk Significant Quantity (TBq <sup>1</sup> )	Risk Significant Quantity (Ci <sup>1</sup> )
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 <sup>2</sup>	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

<sup>1</sup> The primary values are TBq. The curie (Ci) values are for informational purposes only.  
<sup>2</sup> 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.

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. <b>NOTE—If an amendment of an existing license is being requested, the calculations will include the previously authorized quantities for the radionuclide(s).</b>	Yes, No, or Not Applicable (NA)
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:

  
 License Reviewer and Date

August 16, 2006

*RTC*  
Attention: Ms. Cook  
Materials Licensing, Nuclear Materials Safety Branch  
U.S. Nuclear Regulatory Commission, Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, Texas 76011-8064  
Fax Number: (817) 860-8263

Re: Pacific Cardiology, LLC  
NRC License No. 53-27747-01  
Docket No. 030-39196  
Subject: Decommissioning survey report to complete amendment letter dated 2/26/06

Dear Ms. Cook:

Thank you for returning my phone call and advising on the procedure to request expedited consideration.

Dr. Yamada asked me to contact you to request expedited review of the decommissioning report of the restricted area of his old facility at 2226 Liliha Street, Suite 302. Now that the he has moved his practice to Queen's POB III, Suite 601, 550 South Beretania Street, Honolulu, Hawaii 96813, he would like to release the old office space.

Thank you for your consideration.

Please direct any questions to Elizabeth Rodenbeck, MS our consultant on Radiation Safety Compliance, by phone at (808) 922-7743 or facsimile at (808) 373-3139 or email at [beth808@hawaii.rr.com](mailto:beth808@hawaii.rr.com).

Mahalo and Aloha,  
for Pacific Cardiology, LLC

*Elizabeth S. Rodenbeck*

Elizabeth Rodenbeck, MS



Pacific Cardiology LLC

Fax Transmittal Cover Sheet

☐ Calvin Y.H. Wong, M.D.  
☐ Samuel Dacanay, M.D.  
☐ Michael Hansa, M.D.

☒ Gregg M. Yamada, M.D.  
☐ Sonny J.H. Wong, M.D.

☒ Queens POBIII550 So. Beretania St. Suite 601  
Honolulu, Hawaii 96813

Tel: (808)522-PACC(7222) Fax: (808) 532-0414

To: Materials Licensing, Nuclear From: Materials Safety Branch  
U.S. NRC, Region IV From: Lori DeCosta of Pacific Cardiology  
Of: U.S. NRC, Region IV Date: 8/10/06  
Fax: (817) 860-8263 # of pages(including cover sheet): 7  
Tel: (808) 522-7222 If received incomplete, please call.

This message is intended for the use of only the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone, and return the original message to us at the address above via the U.S. Postal Service. Thank you.

Re: Pacific Cardiology, LLC  
NRC License No. 53-27747-01  
Docket No. 030-39196

August 9, 2006

Materials Licensing, Nuclear Materials Safety Branch  
U.S. Nuclear Regulatory Commission, Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, Texas 76011-8064  
Fax Number: (817) 860-8263

Re: Pacific Cardiology, LLC  
NRC License No. 53-27747-01  
Docket No. 030-39196

Subject: Decommissioning survey report to complete amendment letter dated 2/26/06

Dear Sir or Madam:

Following our move to Queen's Physician's Office Building III, Suite 601 at 550 South Beretania Street, Honolulu, Hawaii 96813, our health physics consultants performed a decommissioning or closeout survey of the restricted area of our old facility at 2226 Liliha Street, Suite 302. We enclose that report and attachments for your consideration.

The decommissioning (return to unrestricted use) of the old office space will commence upon notification of your review of the enclosed report of the ambient survey and wipe counting.


Please change our location and mailing address to a single site:

Pacific Cardiology, LCC  
Queen's POB III, Suite 601  
550 South Beretania Street  
Honolulu, Hawaii 96813

We ask that you please expedite your review.

Please direct any questions to Ronald Frick, MS, Gamma Corporation, 850 W. Hind Drive, Suite 214, Honolulu, HI 96821, by phone at (808) 373-7009, cell (808) 282-0619, or facsimile at (808) 373-7017 or email at [rfrick@gammacorp.com](mailto:rfrick@gammacorp.com). A second contact is Elizabeth Rodenbeck, our consultant on Radiation Safety Compliance, by phone at (808) 922-7743 or facsimile at (808) 373-3139 or email at [beth808@hawaii.rr.com](mailto:beth808@hawaii.rr.com).

Sincerely,



Dr. Gregg Yamada  
Radiation Safety Officer

Enclosures

**DECOMMISSIONING SURVEY REPORT****SURVEY TYPE: CLOSEOUT SURVEY****LOCATION: SUITE 302, 2226 LILIHA STREET, HONOLULU, HAWAII***Introduction:*

Pacific Cardiology, LCC moved their physician office operations from 2226 Liliha Street, Suite 302 to Queens Medical Center POB III, 555 Beretania Street, Suite 601. All operations in the nuclear cardiology imaging area in suite 302 at 2226 Liliha were discontinued on July 20, 2006. All equipment and radioactive material including radioactive waste and sealed sources of Cesium-137 and Cobalt-57 were removed from the imaging area prior to the closeout survey. Only two radionuclides, Technetium-99m and Thallium-201, were used for nuclear cardiology imaging. A final survey, designated as a closeout survey, was performed to assure that no residual radioactive contamination remained in the restricted area where radioactive material was used or stored.

*Survey Instrument Data:*

Ludlum model 2241-2, serial number 188138, using the Ludlum sodium iodine scintillation probe model 44-2, serial number PR199321 that was last calibrated 01/24/06. The meter check source reading was 76.5 kC/m (within 2% of the calibration check source reading) and the background reading (an average of 5 readings throughout 3 hour survey process) was 0.7 kC/m. The minimum detectable activity for the survey was 3054 dpm or 0.0138  $\mu\text{Ci}$  ( $\text{MDA} = 2.71 + 3.39 (\text{bkg cpm} \times \text{counting time})^{-1/2} / \text{sample time} \times \text{detector efficiency}$ ).

*Ambient Survey of All Restricted Areas:*

A closeout survey of the empty former Pacific Cardiology facility located at 2226 Liliha Street, Suite 302, Honolulu, Hawaii 96817 was performed on August 3, 2006. The all surfaces of the floors, sinks, countertops, and the insides all mounted cabinets and drawers (including former location of hot lab and sink and countertop) of the Nuclear Imaging area, Treadmill Room 1 and Treadmill Room 2 were surveyed with a Ludlum survey meter with scintillation probe. No evidence of residual fixed radioactive contamination was found since no survey readings exceeded the average background reading of 0.7 kC/m.

*Wipe Counting Instrument Data: (See attached wipe counting report.)**Wipe Survey of All Restricted Areas:*

Wipe samples were obtained during the survey visit using cotton swabs with medium pressure over a 100 square centimeter area of sites where radioactive material was used to detect evidence of residual removable contamination. A total of 27 wipe samples were taken (see list of wipe locations and floor plan designations) of Treadmill Room #2, Treadmill Room #1, the previously designated Hot Lab Area, Imaging Area, and Sink counter area. The wipes were analyzed in scintillation well counter (see wipe counting report). No evidence of removable radioactive contamination was found in any area where radioactive materials were used.

**Summary:**

No evidence of fixed or removable radioactive contamination was found in the restricted area of Suite 302, 2226 Liliha Street. The area is now free of any radioactive material and pending approval of this survey report by Nuclear Regulatory Commission, may be released to unrestricted use.

The ambient survey was performed by and wipe samples were taken by:

Elizabeth S. Rodenbeck  
Elizabeth Rodenbeck, M.S.  
Radiation Safety Consultant

Date 8/8/06

The wipe sample analysis was performed by:

Gamma Corporation, 850 West Hind Drive, Suite 214, Honolulu, Hawaii 96821-1845

**Attachments:**

List of wipe samples

Location of wipes designated on floor plan

Report of wipe counting

Leak test certificate for sealed sources possessed by Pacific Cardiology, LCC

**Closeout Survey for Residual Radioactive Contamination**  
**Pacific Cardiology, LCC, 2226 Liliha Street, Suite 302, Honolulu, Hawaii 96817**

Wipe specimens taken August 3, 2006 at the following locations (see attached diagram):

**Treadmill Room # 2**

- 1 Sink drain
- 2 Sink side
- 3 Countertop
- 4 Floor (6 tiles in from entrance/ 3 tiles from wall)
- 5 Door handle both sides

**Treadmill Room #1**

- 6 TV controls
- 7 Door handle both sides
- 8 Floor (8 tiles from entrance / 2 tiles from wall)
- 9 Floor (9 tiles from entrance / 4 tiles from wall)
- 10 Floor (6 tiles from entrance/9 tiles from wall)

**Hot Lab Area**

- 11 Electric outlets
- 12 Light switch
- 13 Floor (2 tiles to SE corner/ 2 tiles to wall to corridor, front of former lead safe location)
- 14 Floor (2 tiles to SE corner/ 5 tiles to wall to corridor, front of former draw dose station)

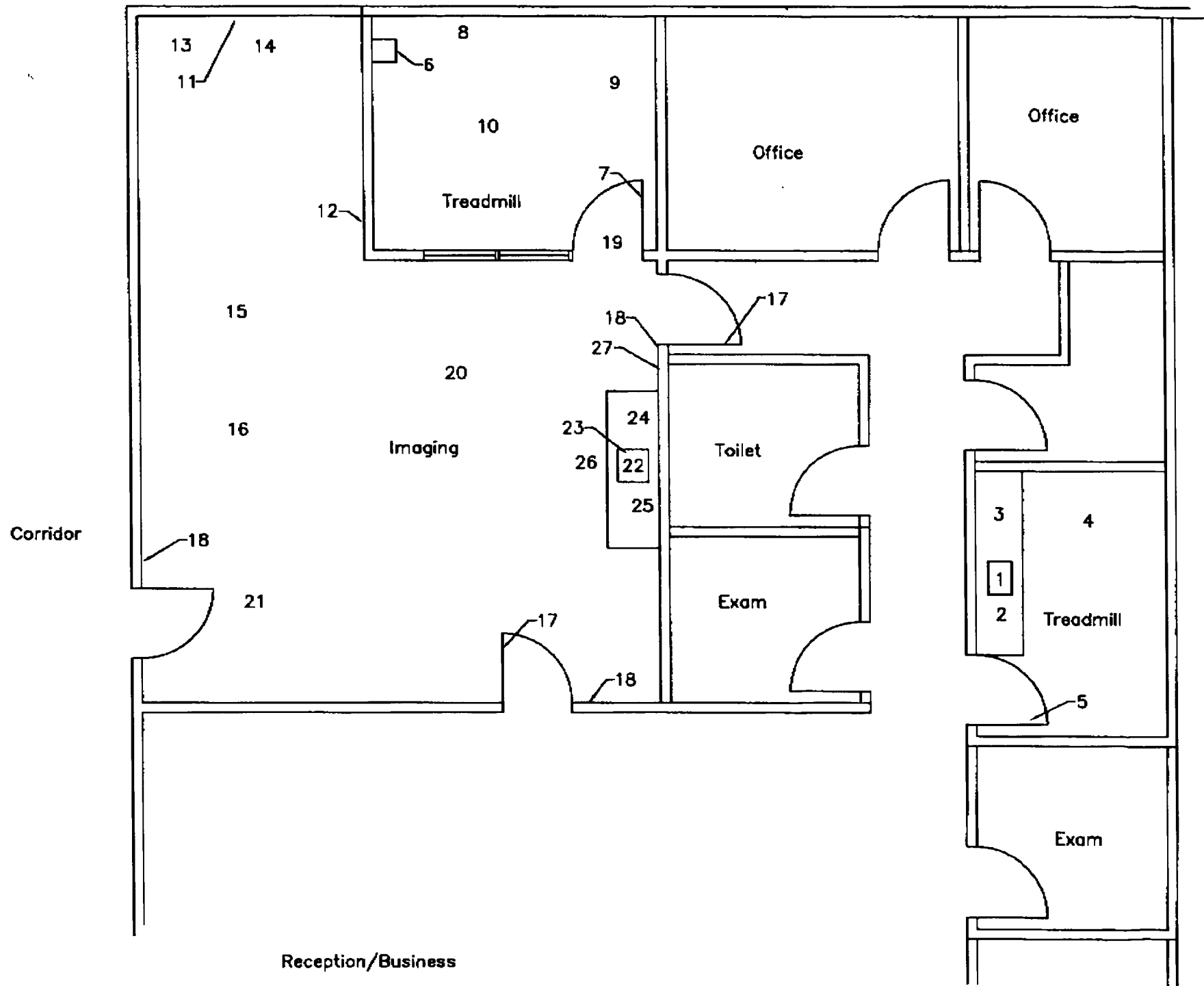
**Imaging Area**

- 15 Floor (7 tiles from wall to corridor, patient side of former camera location)
- 16 Floor (former head of camera location)
- 17 Door handles both sides (door to reception & door to MD hallway)
- 18 Light switches (4 in imaging area)
- 19 Floor at entry between Treadmill Room #1 & Imaging Area
- 20 Floor at center of imaging area (10 tiles to reception wall/ 8 tiles to corridor wall)
- 21 Floor (5 tiles to reception wall/5 tiles to corridor wall)

**Sink counter Area**

- 22 Sink drain
- 23 Sink sides
- 24 Countertop left of sink
- 25 Countertop right of sink
- 26 Floor in front of sink
- 27 Wall above former location of rubbish can







# Gamma Corporation

850 West Hind Drive #214, Honolulu, HI 96821

Phone (808) 373-7009

FAX (808) 373-7017

## Wipe Sample Analysis

**Facility:** Pacific Cardiology

**Address:** 2226 Liliha Street, Suite 302  
Honolulu, HI 96817

**Analysis date:** August 8, 2006

**Performed By:** Ronald Frick, M.S., CHP, DABR

### Instrumentation:

Wipe samples were analyzed for gamma emitters with a Canberra Inspector multichannel analyzer with 2" x 2" NaI well detector. The detection efficiency for Co-57 gammas is 94.4%, as measured with a Co-57 standard. Average background for the counter is 3.28 count per second. For a 100 second count, minimum detectable activity is 1.0 count per second.

### Efficiency Determination:

Co-57 Standard activity = 0.09513  $\mu$ Ci, Cal. 6/1/03

Activity on 6/26/06 = 201.8 cps

Net Measured cps = 190.5

Detection efficiency = 94.4%

MDA = 1.0 cps

### Results

Wipe #	Results (Bq)	Wipe #	Results (Bq)	Wipe #	Results (Bq)
1	<1.0	10	<1.0	19	<1.0
2	<1.0	11	<1.0	20	<1.0
3	<1.0	12	<1.0	21	<1.0
4	<1.0	13	<1.0	22	<1.0
5	<1.0	14	<1.0	23	<1.0
6	<1.0	15	<1.0	24	<1.0
7	<1.0	16	<1.0	25	<1.0
8	<1.0	17	<1.0	26	<1.0
9	<1.0	18	<1.0	27	<1.0

AUG 21 2006

DATE

This is to acknowledge the receipt of your letter/application dated 08-09-06, and to inform you that the initial processing, which includes an acceptance 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 in 90 days.  
*your request is to be expedited.*

☐ A copy of your action has been forwarded to the NRC Office of the Chief Financial Officer, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 471080.

When you call to inquire about this action, please refer to this mail control number.

You may call me at 817/866-8103.

Sincerely,

*Colleen Murnahan*  
Licensing Assistant

(FOR LEMS USE)  
 INFORMATION FROM LTS  
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.....
Program Code: 02201
Status Code: 0
Fee Category: 7C
Exp. Date: 20130228
Fee Comments:
Decom Fin Assur Regd: N
.....

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### A. REGION

- PACIFIC CARDIOLOGY, LLC  
20060810  
3036196  
471080  
53-27747-01  
Amendment

- 1

- Signed William M. Mendenhall  
Date 8-16-06

CH (Check when milestone 03 is entered / \_\_/)

- tion may be processed for:

Signed \_\_\_\_\_  
Date \_\_\_\_\_