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THE CHRIST HOSPITAL / CINCINNATI, OHIO 45219

February 27, 1984

20-02725

RECEIVED BY LFMB	
Date	3/2/84
Log	Mar 2/84
By	C. R. [signature]
Orig To	[signature]
Action Cont	[signature]

United States Nuclear Regulatory Commission, Region III
Materials Licensing Branch
Attention: William J. Adam, Ph.D.
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Dr. Adam:

Regarding your letter dated November 9, 1983, and your conversation with Mr. Bloomfield concerning the amendment request (Control No. 75642) to The Christ Hospital Byproduct Materials License (34-03831-02) and our initial response to you dated December 1, 1983, you will find enclosed a response to the items dealing with incineration of contaminated animal tissue which have not heretofore been discussed or submitted.

Included are copies of a City of Cincinnati Department of Health Registration dated December 16, 1983; a letter from the Ohio Department of Health dated February 7, 1984; a memo from Mr. Ed Hoeltke dated December 5, 1983; and a list of responses to the items of information required for incineration.

Please note that this correspondence is our response to your request for additional information which was specified in your letter of November 9, 1983, and stated in paragraph two of our letter of December 1, 1983, as information which would be forthcoming.

Please direct any requests for further information to the attention of Joseph L. Hall, Staff Medical Physicist, Department of Radiation Medicine.

Thank you for your attention to this matter.

Sincerely yours,

[Signature of Jack M. Cook]
Jack M. Cook
President

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REGION III

FEE EXEMPT

REGION III
MAR 2 1984

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REG3 LIC30
34-03831-02 PDR

ELIZABETH GAMBLE DEACONESS HOME ASSOCIATION

Control No. 76395



THE CHRIST HOSPITAL / CINCINNATI, OHIO 45219

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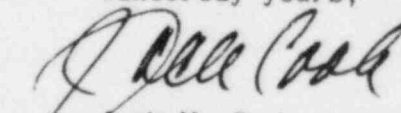
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Jack M. Cook
President

Control No. 76395

RESPONSE TO NRC INFORMATION REQUIRED FOR INCINERATION

Items 1,3,4: Addressed in original amendment proposal dated September 22, 1983.

Item 2: See Ed Hoeltke's memo, December 5, 1983 (attached).

Item 5: It is assumed that virtually all of the incinerated selenium-75 (as selenomethionine) will be discharged in the stack effluent. Because of the enormous volume of combustible material at The Christ Hospital, it is also assumed that the concentration of selenium-75 in residual ash will be well below the limit of 3×10^{-4} $\mu\text{Ci/ml}$ (water) as specified in Appendix B, Table II 10 CFR Part 20.

Measurement of ash samples will be performed to determine the exact concentration of selenium. The samples will be counted in a Packard Auto Gamma Scintillation Spectrometer which has been calibrated for selenium-75.

Item 6: See Ed Hoeltke's memo, December 5, 1983 (attached).

Item 7: Introduction of combustible animal tissue into the incinerator will be performed as soon as is reasonably achievable by the R.S.O., or his designee. The only individual likely to handle the residual ash is the operator indicated in item 6. This operator will be issued and instructed in the proper use of a dust respirator which will minimize the unlikely occurrence of overexposure due to dust inhalation. The operator will wear a work uniform and gloves which are laundered at The Christ Hospital. We believe these procedures to be adequate in preventing overexposure due to the exceedingly low concentrations expected in the ash.

Item 8: Enclosed is the evidence that state and local jurisdictions have been notified and that all state and local regulations concerning the incineration of radioactive material have been met by our institution.

Item 9: Maximum number of burns per week: 5
Maximum number of burns per year: 260

MEMORANDUM

TO: Mr. Lawrence Bloomfield
Radiation Safety Officer
Institute of Medical Research

FROM: Mr. Edwin H. Hoeltke
Assistant Administrator
The Christ Hospital

DATE: December 5, 1983

RE: Information Required - Nuclear Regulatory Commission

Following receipt of your memorandum on December 1, 1983, as it relates to the information required for the Nuclear Regulatory Commission licensing, I have gathered the following data. In response to the items listed in the material you furnished, I will indicate by item number my response.

Item 2. Characteristics of the incinerator include the following:

- A. Height of stack - 25 feet above top of incinerator, approximately 35 feet above floor of operating room which is equivalent to ground level.
- B. Height of adjacent buildings, ten floors above grade.
- C. Distance from these buildings, closest building approximately 102 feet.
- D. Proximity to air intakes, approximately 105 feet to the nearest intake which is a window air conditioning unit.
- E. The rated air flow of the incinerator in cubic feet per hour or similar units is as follows: The rating of the incinerator is that it will discharge at the rate of 4,000 to 5,000 feet³ per minute when the heat recovery unit is in operation. Without the heat recovery unit, it will exit at approximately 10,000 to 12,000 feet³ per minute. The inside diameter of the stack is forty-eight inches, and these rates are calculated at a velocity of 1,800 feet per minute.

Item 6. Describe the procedures for handling and disposing of ash from the incinerator.

The handling and disposal of ash from this unit will be such which makes it nearly an automatic removal and storage system. The ash will be pushed from the bottom of the Incinerator grates into a collecting hopper built into a pit

December 5, 1983

RE: Information Required - Nuclear Regulatory Commission

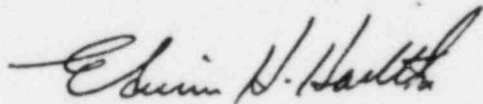
below the floor of the operating building. The ashes will be removed from this pit by a pneumatic conveying system. The operator will pull the ashes to the intake on the ash removal system which constitutes the only manual operation.

The ash will then be transported by means of an eight inch suction line to an ash storage tipple where ashes from the adjacent coal fired boiler plant are stored. These ashes are then hauled from the property on a regular basis.

Additional Information:

1. Frequency of Stack Cleaning:
The stack will be cleaned as appropriate but at least once/month.
2. Frequency of Ash Collection and Disposal will be every four hours from this unit which will be a twenty-four hour continuous operation and the ash will be removed from the storage tipple no less than once per week; and during heavy air conditioning and heating seasons, it will be removed twice per week.

Hopefully this information will be sufficient for you to procure your revision to your permit from the Nuclear Regulatory Commission, and I would encourage you to call if you have any additional questions. Thank you for following up on this matter and working with us as we attempt to incinerate any possible materials on site to avoid any other problems with disposition of waste at The Christ Hospital and the Institute of Medical Research.



Edwin H. Hoeltke
Assistant Administrator

cc G. Schiff
B. Simrall



City of Cincinnati

STANLEY E. BROADNAX, M.D., M.P.H.
COMMISSIONER OF HEALTH

DEPARTMENT OF HEALTH

3101 BURNET AVENUE
CINCINNATI, OHIO 45229

December 16, 1983

TO WHOM IT MAY CONCERN:

The registration form photocopied below was received by the Cincinnati Health Department on December 9, 1983. This fulfills the local requirement for registration of all radiation sources with the Health Department, for the materials and facility specified below.

Nadine B. Grady
Nadine B. Grady, R.S.
Senior Sanitarian
Professional Services Division

CITY OF CINCINNATI BOARD OF HEALTH

Reg. No. _____

REGISTRATION OF A RADIATION INSTALLATION — OH-2

Each radiation producing device should be registered separately. Radionuclide users should register the installation indicating the maximum quantity of each radionuclide to be held in possession at any one time.

Christ Hospital Institute of Medical Research
1. *Bloomfield* *Lawrence*
Last Name First Name
3. *2141 Auburn Ave, Cinti, 45219*
Address
5. *Biomedical Research*
Type of Activity or Specialization
(Hospital, Industrial Research, Gyn., Radiology, General Practice, etc.)

2. Are you the owner ☐ yes ☒ no, if not give owner's name
Eliz. Gamble Deaconess Home Assn.
4. Type of Bldg. (Private home, office bldg., Hospital, etc.)
Hospital
6. Has equipment ever been inspected for safety ☒ yes ☐ no
incinerator

7. Radioactive Materials generally on hand (except teletherapy units)
Check ☐ if none

Material	Maximum Amount at Any Time		Specify Amt. in Microcuries
	Specify Amt. in Curies	Specify Amt. in Millicuries	
Radium seeds			
Radium needles and/or Tubes			
Co-60 Applicators			
Thorium x-materials			
Others <i>Selenium-75</i>		<i>3.0</i>	

246 N. High Street
Post Office Box 118
Columbus, Ohio 43216
Telephone (614) 460-3543



RICHARD E. CELESTE
Governor

February 7, 1984

Lawrence Bloomfield, R.S.O.
Christ Hospital Institute of Medical Research
2141 Auburn Avenue
Cincinnati, Ohio 45219

Dear Mr. Bloomfield:


Your application for disposal of radioactive material by incineration has been received and reviewed by our staff. Approval has been given to your application based on the information which you have provided us.

This information indicates that your institution will meet Department of Health requirements and standards concerning incineration of radioactive material.

We appreciate your cooperation in furnishing the information concerning your incineration plans.

Please notify this office if any changes or amendments are made to your incineration operation in the future.

Sincerely,


Robert Quillin
Director, Radiological Health Program

Control No. 76895

THE CHRIST HOSPITAL / CINCINNATI, OHIO 45219



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Date	5/15/84
Log	may 13
By	CP
Orig. To	RTD
Action Compl.	CP

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President

add info
FEE EXEMPT

to CN 75642

Control No. 76733

RECEIVED

MAY 07 1984

REGION III

MAY 7 1984

76395



City of Cincinnati

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DEPARTMENT OF HEALTH

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Eliz. Gamble Deaconsess Home Assn.

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Equal Opportunity Employer



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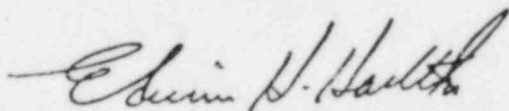
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