

DEC 14 1993

License No: 20-00595-02  
Docket No: 030-01812  
Control No: 113185

Marine Biological Laboratory  
ATTN: Dr. John E. Burris  
Director and Chief Executive Officer  
Woods Hole, Massachusetts 02543

Dear Dr. Burris:

This is in reference to your submittal dated August 21, 1990 with attached Decommissioning Funding Plan, Letter of Credit and Standby Trust Agreement. Your letter dated December 5, 1993 also provided additional information to establish financial assurance for NRC License Number 20-00595-02. We have reviewed your submittal and within the scope of our review, no further deficiencies were identified.

Based on our review of your submittals, you are in compliance with the requirements of 10 CFR 30.35. Please note that financial assurance certification and all associated documentation are required to be updated with significant changes in your operation and with each application for license renewal.

Thank you for your cooperation in this matter.

Sincerely,  
Original Signed By:  
**Mohamed M. Shanbaky**

Mohamed M. Shanbaky, Chief  
Research and Development Section  
Division of Radiation Safety  
and Safeguards

cc: Andrew H. Mattox  
Radiation Safety Officer

bcc: M. Shanbaky, RI  
D. Everhart, RI

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Marine Biological Laboratory

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DRSS:RI  
Everhart



12/10/93

DRSS:RI  
Shanbaky



12/10/93



MARINE BIOLOGICAL LABORATORY

WOODS HOLE • MASSACHUSETTS • 02543 • (508) 548-3705

ANDREW H. MATTOX  
ENVIRONMENTAL HEALTH  
& SAFETY MANAGER

MS16  
K-2

December 5, 1993

Docket No: 030-01813  
License No: 20-00595-02  
Control No: 113185

John D. Kinneman, Chief  
Research, Development and  
Decommissioning Section  
U. S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, Pennsylvania 19406-1415

Dear Mr. Kinneman

This is in response to your August 9, 1993 letter to Dr. Harlyn O. Halvorson requesting modifications to our financial assurance plan. For your records, Dr. John E. Burris now serves as our Director and Chief Executive Officer.

In a September 3, 1993 phone conversation with David Everhart I was granted an extension of the time provided to reply to your letter. This response has been unavoidably delayed while we corresponded with our bank.

I believe that the irrevocable \$40,000 Letter of Credit acquired in 1990 provides adequate financial assurance. The following comments are offered in response to the specific questions raised in your letter.

1. Cost Estimate

A. Five person days to decontaminate laboratory components

As noted in my August 21, 1990 letter, in practice, our facilities always meet the standards for release for unrestricted use. We do not know of any building components which currently have removable surface contamination levels which exceed decommissioning levels referenced on page C-2 of NUREG/CR-1754. Levels above these limits are sometimes detected during regular weekly and monthly laboratory surveys. Removal of the contamination detected in that manner has never required as much as five person-days of labor.

Most of MBL's radioisotope use is associated with our summer research and educational programs. Each fall, when laboratories used by those programs are vacated, all radioactive materials are removed, final surveys are conducted, contaminated laboratories are cleaned to decommissioning standards, and the laboratories are released for unrestricted reassignment.

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The five day estimate is based on the fact that we have extensive decommissioning experience and that we are not aware of any areas within our facilities which have contamination levels above applicable NRC standards.

B. MBL's five person-day estimate vs. the NUREG/CR-1754, Addendum 1, estimate of eight person-days for decontamination of a single fume hood

Table 5.3. on page 5.6 of Addendum 1 to NUREG/CR-1754 summarizes the labor required to decontaminate fume hoods. Estimates range from 7.9 to 14.6 person-days. Although the NUREG document provides useful guidance for decommissioning planning, the published labor estimates are not relevant to our licensed activities. The estimates refer to fume hoods described in Sections 7.1.1 through 7.1.5 of NUREG/CR-1754. Contamination levels described in those hoods, prior to the commencement of decommissioning activities, are based on the experiences of New England Nuclear, a large commercial manufacturer of labeled compounds. The individual H-3 and C-14 manufacturing laboratories, described in NUREG/CR-1754, have inventories which exceed the total licensed possession limits for all of our radioisotope laboratories by a minimum factor of twenty.

No specific estimates are given for decontamination of the three fume hoods in the reference institutional user laboratory, designed in 1949, which is described in Section 7.2. However, contamination levels in those hoods, shown in Table 7.2.2., are based on an unsubstantiated estimate by the author. Furthermore, activities described in the reference laboratory include the use of as much as 100 mCi of activity in the synthesis of organic compounds, an activity that is not conducted at the MBL.

We have used the five person-day estimate because it is a realistic over estimate of the amount of labor required to decontaminate our facility components. I believe that MBL's institutional experience and my twenty years of professional experience are more relevant than NRC estimates based on experiences at New England Nuclear, where highly complex operations involving many curies of licensed materials are conducted on a routine basis.

C. Omission of laboratory walls and ventilation systems

As noted above, we are not aware of any walls or ventilation systems which have residual contamination levels which exceed NRC standards.

Applicants for authorization to use radioactive materials are asked about any proposed uses of gaseous or powdered radioactive materials, the forms which would be most likely to contaminate building components. Protocols involving such materials are specially reviewed to reduce contamination risks. Use of powders is rare and we have no history of any problems. Occasional gaseous releases of C-14 labeled CO<sub>2</sub> have never produced residual contamination. Releases of small amounts of I-125 and S-35 compounds have never produced significant contamination and are technically exempt from DFP planning because of their short half-lives.

Hood work surfaces are wipe tested during routine laboratory surveys. In eight years of surveying, I have never found hood contamination in excess of the decommissioning standards. Wipe test results should be representative of contamination within other elements of the ventilation systems. Walls are not surveyed unless tests of horizontal surfaces show widespread detectable contamination. It is possible that decommissioning surveys might detect previously unrecognized residual contamination but in the absence of any known contamination we believe that our labor allowance and contingencies are adequate.

## 2. Waste Estimates

Justification for our conservative waste estimates is comparable to that used for our estimate of labor costs. Because facilities described in NUREG/CR-1754 are not comparable to MBL's radioisotope research laboratories, waste estimates in NUREG/CR-1754 are substantially greater than the amounts of waste which might be generated during MBL's decommissioning activities.

On page A.4 of Appendix A to NUREG/CR-1754, Addendum 1, the authors estimate the generation of five drums of waste during decontamination of a single fume hood. MBL generates less than twenty drums of waste per year from all of our licensed activities, including the routine surveying and decontamination of facility components. The NUREG waste estimate includes disposal of filters, which are not found on any MBL hood exhaust system, and disposal of two drums of solidified liquid waste. The solidified liquid volume implies that as much as 100 liters of liquid waste would be produced during a hood decontamination. Based on our experience, that is not a realistic estimate.

In our 1990 submittal, MBL allowed 25% of our maximum waste room capacity for wastes generated during decommissioning. That was equivalent to disposal of approximately five 55 gallon drums of wastes at 1990 prices. That amount is believed to be an overestimate based on our decontamination experience. The total amount of all wastes generated during any previous decontamination activity has never exceeded one 55 gallon drum.

Waste generated during decommissioning surveys would consist almost exclusively of scintillation vials. A single drum with a capacity of 3000 vials should be adequate. Facility decontamination would require disposal of solid wastes, compacted with our commercial compactor, and solidified liquids. Not more than one drum of each should be required. Our five drum estimate is realistic based on our surveying and decontamination experience, particularly in light of the fact that we are not currently aware of any facility components which will require decontamination.

## 3. Contingency Factors

The 1.5 day contingency represents 11 percent of the 13.5 person-days estimated for MBL's decommissioning activities. However, there are several other contingencies inherent in our August 21, 1990 submittal which bring the total to more than 25 percent.

A. The irrevocable letter of credit was issued for \$40,000. That exceeded the estimate of \$36,803 for 1996 decommissioning costs by 9 percent. Our 1990 DFP submittal did not take into account bank charges for serving as the Trustee during decommissioning. The bank has indicated that the trustee's fee will not exceed 10% of the Letter of Credit amount or \$4,000. The excess balance in the Letter of Credit does not contribute to our contingency reserve but we believe that it provides an acceptable reserve to cover trustee expenses. Those expenses were originally estimated at \$2,500.

B. As noted in the August 1990 letter, our DFP did not draw any distinction between costs associated with radioisotopes covered by DFP regulations and those associated with isotopes with half-lives less than 120 days. This is a substantial contingency because approximately 70% of our radioisotope usage is exempt from the DFP regulations.

C. Waste disposal costs were based on the assumption that the waste room would be full at the time decommissioning activities were commenced. Average waste room inventory could have been used. That is a substantial contingency. The waste estimates also do not reflect the MBL's disposal by decay program instituted after August 1990.

D. Finally, because we have an effective monitoring program and are not aware of any facility components which will require decontamination, the allowance of five days to perform that activity is a contingency allowance.

With regard to the final sentence in Question 3, we confirm that we have not included any credit for salvage value in the submitted cost estimates.

#### 4. Specimen Certificates

A specimen Certificate of Events and a specimen Certificate of Resolution are enclosed. Although they were accidentally omitted from the bank's acknowledgment, they have been affixed to the Standby Trust Agreement.

#### 5. Standby Trust Agreement Schedules

Schedules A, B, and C are also enclosed and have been added to the Standby Trust Agreement. Trustee fees in Schedule C are quoted through August 3, 1996 at which time we will provide a revised schedule which will be timed to expire with our license.

Please don't hesitate to contact me at (508) 548-3705 extension 424 if you have any questions about this information. If there are minor deficiencies, I hope they can be deferred and addressed during our next license renewal.

Sincerely,

Andrew H. Mattox  
Environmental Health and Safety Manager

cc: John Burris

Enclosures:

1. Certificate of Events
2. Certificate of Resolution
3. Trust Agreement Schedule
4. Letter dated October 25, 1993      MBL to South Shore Bank
5. Letter dated November 19, 1993    South Shore Bank to MBL
6. Letter dated November 29, 1993    South Shore Bank to MBL
7. Letter dated December 1, 1993    MBL to South Shore Bank
8. Letter dated December 2, 1993    South Shore Bank to MBL

## Certificate of Events

Falmouth National Bank  
84 Main Street  
Falmouth, MA 02540

Attention: Trust Division

Gentlemen:

In accordance with the terms of the Agreement with you dated August 16, 1990, I, Neil Jacobs, Clerk of The Marine Biological Laboratory, hereby certify that the following events have occurred:

1. The Marine Biological Laboratory is required to commence the decommissioning of its facility located at Water Street, Woods Hole, Massachusetts.
2. The plans and procedures for the commencement and conduct of the decommissioning have been approved by the United States Nuclear Regulatory Commission, or its successor, on \_\_\_\_\_ (copy of approval attached).
3. The Board of Directors of The Marine Biological Laboratory has adopted the attached resolution authorizing the commencement of the decommissioning.

\_\_\_\_\_  
Clerk of The Marine Biological Laboratory

\_\_\_\_\_  
Date



## Certificate of Resolution

I, Neil Jacobs, do hereby certify that I am Clerk of The Marine Biological Laboratory, a Massachusetts corporation, and that the resolution listed below was duly adopted at a meeting of this Corporation's Board of Directors on \_\_\_\_\_, 19\_\_\_\_

IN WITNESS WHEREOF, I have hereunto signed my name and affixed the seal of this Corporation this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

\_\_\_\_\_  
Clerk

RESOLVED, that this Board of Directors hereby authorizes the President, or such other employee of the Company as he may designate, to commence decommissioning activities at The Marine Biological Laboratory in accordance with the terms and conditions described to this Board of Directors at this meeting and with such other terms and conditions as the President shall approve with and upon the advice of Counsel.

## TRUST AGREEMENT SCHEDULE

### SCHEDULE A

This Agreement demonstrates financial assurance for the following cost estimates for the following licensed activities:

| <u>U.S. NUCLEAR<br/>REGULATORY<br/>COMMISSION<br/>LICENSE NUMBER</u> | <u>NAME AND<br/>ADDRESS<br/>OF<br/>LICENSE</u>       | <u>ADDRESS OF<br/>LICENSED<br/>ACTIVITY</u> |
|--|--|---|
| 20-00595-02  | Marine Biological Laboratory<br>Woods Hole, MA 02543 | same  |

### COST ESTIMATES FOR REGULATORY ASSURANCES DEMONSTRATED BY THIS AGREEMENT

\$40,000

The cost estimates listed here were last adjusted and approved by the NRC not yet approved but pending as of the August 21, 1990 application.

### SCHEDULE B

Amount \$40,000

As evidenced by Irrevocable Standby Letter of  
Credit No. 7193  
Falmouth National Bank

### SCHEDULE C

Falmouth National Bank Trustee's fees shall not exceed 10% of the Letter of Credit amount or \$4,000 until the Letter of Credit renewal date of August 3, 1996.



CONTROLLER'S OFFICE

MARINE BIOLOGICAL LABORATORY

WOODS HOLE • MASSACHUSETTS • 02543 • (508) 548-3705

October 25, 1993

Mr. William B. Carey  
Vice President  
South Shore Bank  
Cape Cod Region,  
Falmouth, MA 02540

Re: Standby Letter of Credit No. 7193

Dear Mr. Carey:

In connection with the referenced letter of credit, I am enclosing the following documents to be attached to the document:

1. Trust Agreement Schedule
2. Certificate of Resolution
3. Certificate of Events

Will you please send me a written confirmation that these documents have been added to the letter of credit.

Thank you.

Sincerely,

cc: A. Mattox ✓

November 19, 1993

Andrew H. Mattox, Mediation Safety Officer  
Marine Biological Laboratory  
Water Street  
Woods Hole, MA 02543

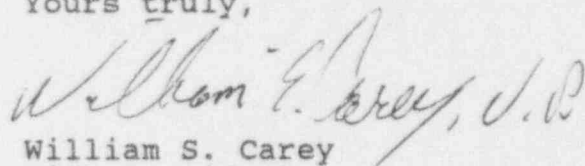
Re: \$40,000 Standby Trust Agreement and Standby Letter of  
Credit

Dear Mr. Mattox:

I am in receipt of the schedules you recently sent me which I have affixed to the Standby Trust Agreement dated in 1990. However, I do take exception to the Bank's fee limited to 2% of the \$40,000 amount. The bank's minimum fee at this time would be \$2,500 to administer the Trust should it become funded and is likely to increase in the future.

If you have any questions, please feel free to give me a call.

Yours truly,



William S. Carey  
Vice President

WSC:db

November 29, 1993

Andrew H. Mattox, Mediation Safety Officer  
Marine Biological Laboratory  
Water Street  
Woods Hole, MA 02543

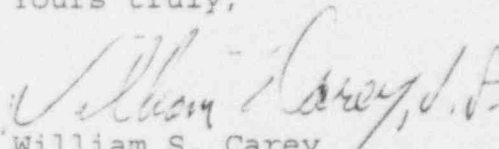
Re: \$40,000 Standby Trust Agreement and Standby Letter of  
Credit

Dear Mr. Mattox:

As per our phone conversation today and as a follow-up to my letter dated November 19, 1993, the administrative fee, (excluding out-of-pocket expenses), for managing the Trust would not exceed 10% of the Letter of Credit amount or \$4,000 fixed until the Letter of Credit renewal date of August 3, 1996.

If you have any questions, please feel free to give me a call.

Yours truly,

  
William S. Carey  
Vice President

WSC:db



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ANDREW H. MATTOX  
ENVIRONMENTAL HEALTH  
& SAFETY MANAGER

December 1, 1993

Mr. William Carey  
Vice President  
South Shore Bank  
Cape Cod Region  
84 Main Street  
Falmouth, MA 02543

Dear Mr. Carey:

I think we're on the final chapter of our exchange on the Nuclear Regulatory Commission's (NRC's) financial assurance documentation. I've attached a revised set of Trust Agreement Schedules which reflect the changes to Schedule C. Fresh unedited copies of the Certificate of Resolution and Certificate of Events are also attached. Because all of these documents are specifically mentioned in the Standby Trust Agreement which was established in August 1990, I would like some sort of effective acknowledgment from the bank that they have been "added to" or "filed with" that Agreement. The acknowledgment will be forwarded to the NRC as proof that we have addressed concerns they expressed in an August 9, 1993 letter.

Thanks for your help with this problem.

Sincerely,

Andrew H. Mattox  
Environmental Health and Safety Manager

December 2, 1993

Andrew H. Mattox, Mediation Safety Officer  
Marine Biological Laboratory  
Water Street  
Woods Hole, MA 02543

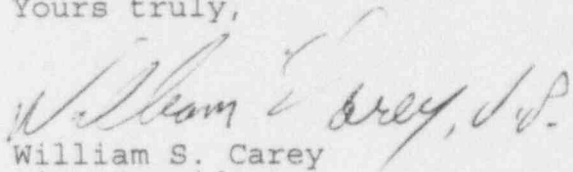
Re: \$40,000 Standby Trust Agreement and Standby Letter of  
Credit #7193

Dear Mr. Mattox:

I am in receipt of schedules A through C which you recently  
sent to me. I have affixed them to the Standby Trust  
Agreement dated April 1990.

If you have any questions, please feel free to give me a  
call.

Yours truly,

  
William S. Carey  
Vice President

WSC:db

AUG 09 1993

Docket No: 030-01813  
License No: 20-00595-02  
Control No.: 113185

Marine Biological Laboratory  
ATTN: Harlyn O. Halvorson  
President  
Woods Hole, Massachusetts 02543

Dear Mr. Halvorson:

Subject: Financial Assurance

This is in reference to your submittal dated August 21, 1990 to provide financial assurance for License Number 20-00595-02. We have reviewed your submittal and request you to modify your submission to address the following:

1. You itemized the cost estimate for your decommissioning funding plan using Appendix F to Regulatory Guidance 3.66 (enclosed), but you did not provide sufficient information to support certain elements of the cost estimate. In particular, please submit additional information in support of your estimate of five person-days required to decontaminate your laboratory components. Appendix A to NUREG/CR-1754, Addendum 1 (enclosed), estimates that eight person-days would be required to decontaminate one fume hood. In addition, please explain why you did not include laboratory walls and ventilation systems among the components to be decontaminated.
2. You estimate that the amount of waste generated from decommissioning activities would be equivalent to 25 percent of your current waste storage. Please either provide justification for this estimate or use the tables in Appendix A to NUREG/CR-1754, Addendum 1, to revise the estimate of the waste generation based on individual decommissioning activities and revise the decommissioning cost estimate accordingly.
3. You added 1.5 person-days as a contingency factor in the estimate of the time required for planning and preparation. However, you have not made any allowance for contingencies in other elements of cost estimate. Regulatory Guide 3.66 recommends that a contingency factor be included in the total decommissioning cost estimate. Incorporating a contingency factor in the cost estimate will help to ensure that you are prepared for unexpected circumstances that could raise decommissioning costs. NUREG/CR-1754 (enclosed) uses a contingency factor of 25 percent in cost estimates for each of six reference laboratories. Please incorporate a contingency factor of 25 percent into the decommissioning cost estimates or if you choose to use a

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lower contingency factor, show why that factor is appropriate. In addition, please confirm that you have not included credit in the submitted cost estimate for any salvage value that may be realized with the sale of potential assets after decommissioning.

4. Your submission does not include a specimen Certificate of Events or a specimen Certificate of Resolution with the Standby Trust Agreement. Section 5 of your Standby Trust Agreement refers to a specimen Certificate of Events that is to be attached to the Trust Agreement. The specimen Certificate of Events, in turn, refers to an attached Certificate of Resolution. The specimen certificates provide the required format for instructing the trustee to release decommissioning funds from the trust. Submit the specimen certificates (which should contain blank spaces for dates and signatures until decommissioning activities have commenced) and follow closely the recommended wording of the specimen certificates on page 4-24 and page 4-25 Regulatory Guide 3.66.
5. Please submit the Standby Trust Agreement schedules referred to in the submitted Trust Agreement and recommended in Regulatory Guide 3.66. Schedule A of the Standby Trust Agreement is important because it identifies the NRC license number, the name and address of the licensee, the address of the licensed activities, and the cost estimates applicable to the agreement. This information assists the trustee in determining if funds should be distributed for a specific facility. Schedule B lists the property initially submitted as certification for financial assurance. Schedule C states the trustee's compensation for serving as trustee. Submit schedules A, B, and C of the Standby Trust Agreement. The recommended wording for these schedules may be found on page 4-26 of Regulatory Guide 3.66.

We will continue our review upon receipt of this information. Please reply in duplicate to my attention at the Region I office and refer to Mail Control No. 113185. If you have any questions regarding this letter please call David Everhart of my staff at (215) 337-6936. Since financial assurance is required for your license we request that you respond within 30 calendar days of the date of this letter.

Sincerely,

*Original Signed By:*  
*John D. Kinneman*

John D. Kinneman, Chief  
Research, Development and  
Decommissioning Section  
Division of Radiation Safety  
and Safeguards

Marine Biological Laboratory

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cc:


Andrew H. Mattox  
Radiation Safety Officer

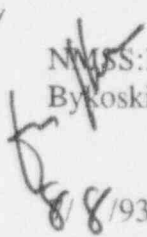
Enclosures:

1. Regulatory Guide 3.66
2. NUREG\CR-1754
3. NUREG\CR-1754, Addendum 1

bcc:

J. Kinneman, RI

  
DRSS:RI  
Everhart/smh

  
NMSS:NRC  
Bykoski

  
DRSS:RI  
Kinneman

8/5/93

8/8/93

8/8/93

030-01813



MARINE BIOLOGICAL LABORATORY

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ANDREW H. MATTOX

August 21, 1990

John D. Kinneman, Chief  
Nuclear Materials Safety Section B  
Division of Radiation Safety and Safeguards  
Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, Pennsylvania 19406

Dear Mr. Kinneman:

This letter is in regard to License 20-00595-02 issued to Marine Biological Laboratory (MBL), Woods Hole, Massachusetts. We wish to notify you of a change in the membership of our Radiation Safety Committee. This does not require an amendment. We are also requesting an amendment to fulfill the 10 CFR 30.35 decommissioning financial assurance requirement. I apologize for the delay in submitting this request. We obviously did not allow sufficient time for our bank to prepare the financial documents. 10 CFR 170.11 (4) exempts the MBL from licensing fees.

COMMITTEE CHANGES

Dr. Paul De Weer has been replaced by Dr. Robert Rakowski. Dr. Rakowski, who also serves as a member of the Radiation Safety Committee at the University of Health Sciences at The Chicago Medical School, has been a summer investigator at the MBL for seven years. His research involves the use of sodium-22 and potassium-42. In 1964 he received formal training in radiation safety during a two month course at Brooks Air Force Base in Texas.

DECOMMISSIONING FUNDING PLAN

INTRODUCTION

The Marine Biological Laboratory (MBL) holds two NRC licenses. License No. 20-00595-06 authorizes possession of a 2600 curie cesium-137 sealed source gamma irradiator. 10 CFR 30.35 (d) exempts this license from financial assurance requirements for decommissioning.

License No. 20-00595-02 is our Type A specific license of broad scope. This license authorizes the possession of unsealed byproduct materials in quantities which require the submission of a decommissioning funding plan (DFP). The option of providing a \$750,000 certification of financial assurance is not practical because of the cost and the eventual need to submit a DFP when the license is renewed.

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The MBL was founded in 1888 as a national center for teaching and research in basic biology. Many of our year-round research programs use licensed materials but approximately ninety percent of our radioisotope use takes place between April and September. Each summer we host hundreds of visiting scientists, faculty members and students in our educational and research programs. We maintain generous possession limits on our Type A license. We could not meet the unpredictable needs of our summer scientists in a timely fashion if we reduced those limits to exempt the MBL from DFP requirements.

The actual use of materials with half lives greater than 120 days is very limited. In 1989 we purchased the following long half lived isotopes:

|       |         |
|-------|---------|
| H-3   | 85 mCi  |
| C-14  | 7 mCi   |
| Na-22 | 3 mCi   |
| Cl-36 | 1 mCi   |
| Ca-45 | 33 mCi. |

Most of our isotope use involved P-32, S-35 and I-125 which are exempt from DFP consideration because their half-lives are less than 120 days. Our DFP covers all materials on license No. 20-00595-02 because of the impracticality of segregating expenses associated with the exempt isotopes.

The MBL has not been required to prepare a decommissioning plan as described in 10 CFR 30.36. We recognize the need to submit form NRC-314 and fulfill the other requirements of section 30.36 if we decide to terminate authorized activities.

#### COST ESTIMATION

Appendix F of the Regulatory Guide 3.66 "Standard Format and Content of Financial Assurance Documents Required for Decommissioning Under 10 CFR Parts 30, 40, 70 and 72" has been used to prepare our decommissioning cost estimate. We believe that the use of this standard conservatively over estimates true costs.

In practice our facilities always meet the standards for release for unrestricted use. Our license requires that we decontaminate any surface that has removable contamination above the limits published in Tables 2 and 3 of NRC Regulatory Guide 8.23. We conduct regular surveys of all isotope use areas and when necessary decontaminate to 8.23 standards. We also conduct final surveys of all equipment and facilities before they are released for unrestricted use. Our decommissioning costs should not exceed the cost of a comprehensive final survey and the cost of disposing of our licensed materials.

We have allowed a total of 10 work days for the planning and preparation portion of decommissioning. Our regular surveys of radioisotope work areas take only two days. The extra time will allow surveys of unrestricted areas and surveys of selected

ductwork and drains. The MBL has always had strict limitations on drain discharges and we have no record of any use of volatile materials with long half-lives.

We propose to have all work conducted by a Health Physicist and have calculated 1990 labor costs at \$50,000/year with a 40% overhead rate to cover fringe benefits. The cost per work day is calculated at \$270. We expect that the Radiation Safety Officer at the time of decommissioning would be the responsible individual.

No facility components are known to be contaminated but we assume that some decontamination to meet 8.23 standards may be needed. Some surfaces of our solid waste compactor and selected lab equipment would need decontamination. Five work days and \$500 in supplies are allowed for these activities. The supply allowance includes those used in the initial facility characterization.

Most of our costs would be associated with waste disposal. We have assumed that our current waste storage room would be full before the commencement of decommissioning activities. A 25% allowance is included to cover the disposal of wastes generated during decommissioning.

No final radiation survey would be required. All areas would be shown to be free of contamination after the initial survey or after surveys associated with any decontamination activities.

#### FINANCIAL ASSURANCE

The current cost of disposing of radioactive wastes is \$13,275. The total for labor and materials is \$4550. Because our license will be renewed for another five years in 1991 we have inflated decommissioning costs forward to 1996. Inflation for labor and materials costs has been calculated at 5% per year. Waste disposal costs have been inflated at a rate of 15% per year. Total cost for 1996 are thereby estimated to be \$36,803. Our financial assurance document has been issued for \$40,000.

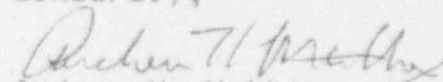
$$13,275 \times 1.15E6 = 30,706$$

$$4,550 \times 1.05E6 = 6,097$$

$$\underline{\hspace{2cm}} \\ \$36,803$$

The MBL has chosen to use an irrevocable standby letter of credit as our financial assurance mechanism. The Letter of Credit, Standby Trust Agreement and Acknowledgement are attached. Recommended wording from Regulatory Guide 3.66 has been used for these documents.

Sincerely,

  
Andrew H. Mattox  
Radiation Safety Officer

APPENDIX F  
COST ESTIMATING TABLES

1. Planning and Preparation

Table 1

| Task   | Supervisor | Work Days |            |          | Total      | Total Cost     |
|--|------------|-----------|------------|----------|------------|----------------|
|  |            | Foreman   | H.P.       | Clerical |            |                |
| 1. Preparation of Documentation for Regulatory Agencies  | _____      | _____     | <u>2</u>   | _____    | <u>2</u>   | <u>\$540</u>   |
| 2. Submittal of Decommissioning Plan to NRC when required by 10 CFR 30.36(c)(2), 40.42(c)(2), or 70.38(c)(2)*                                | _____      | _____     | <u>1</u>   | _____    | <u>1</u>   | <u>\$270</u>   |
| 3. Development of Work Plans   | _____      | _____     | <u>0.5</u> | _____    | <u>0.5</u> | <u>\$135</u>   |
| 4. Procuring of Special Equipment  | _____      | _____     | _____      | _____    | _____      | _____          |
| 5. Staff Training  | _____      | _____     | _____      | _____    | _____      | _____          |
| 6. Characterization of Radiological Condition of the Facility (Including soil and tailings analysis or ground-water analysis, if applicable) | _____      | _____     | <u>5</u>   | _____    | <u>5</u>   | <u>\$1350</u>  |
| 7. Other (CONTINGENCY)   | _____      | _____     | <u>1.5</u> | _____    | <u>1.5</u> | <u>\$405</u>   |
| 8. Total   | _____      | _____     | <u>10</u>  | _____    | <u>10</u>  | <u>\$2,700</u> |

\* For assistance in preparation of cost estimate for 10 CFR Part 72, consult NRC Office of Nuclear Material Safety and Safeguards.

APPENDIX F (Continued)  
COST ESTIMATING TABLES

Table 2

| Position         | Unit Cost for Workers  |                   | Worker Cost/year |
|------------------|------------------------|-------------------|------------------|
|                  | Basic Salaries (\$/yr) | Overhead Rate (%) |                  |
| Supervisor       | _____                  | _____             | _____            |
| Foreman          | _____                  | _____             | _____            |
| Craftsman        | _____                  | _____             | _____            |
| Technician       | _____                  | _____             | _____            |
| Health Physicist | \$50,000               | 40                | \$70,000         |
| Laborer          | _____                  | _____             | _____            |
| Clerical         | _____                  | _____             | _____            |
| Other            | _____                  | _____             | _____            |

2. Decontamination and/or Dismantling of Radioactive Facility Components\*

|                | No.   | Dimensions          |                       | No.   | Dimensions           |
|----------------|-------|---------------------|-----------------------|-------|----------------------|
| Glove Boxes    | _____ | (m <sup>3</sup> )   | Amount of Floor Space | 2     | 40 (m <sup>2</sup> ) |
| Fume Hood      | 2     | 2 (m <sup>3</sup> ) | Ventilation Ductwork  | _____ | (m)                  |
| Hot Cells      | _____ | (m <sup>3</sup> )   | Amount of Wall Space  | _____ | (m <sup>2</sup> )    |
| Lab Benches    | 4     | 24 (m)              | Other                 | _____ | _____                |
| Sink and Drain | 2     | 4 (m)               |                       |       |                      |

Table 3

Work Days

| Task   | Super-<br>visor | Fore-<br>man | Tech-<br>nicians | H.P.  | Crafts-<br>men | La-<br>borer | Total | Tot<br>Cost |
|--|-----------------|--------------|------------------|-------|----------------|--------------|-------|-------------|
| 1. Decon/Dis-<br>mantle Major<br>Components<br>and/or Proc-<br>essing and<br>Storage Tanks | _____           | _____        | _____            | _____ | _____          | _____        | _____ | -0-         |
| 2. Decon/Dis-<br>mantle<br>Laboratories,<br>Fume Hoods,<br>Glove Boxes,<br>Benches, etc.   | _____           | _____        | _____            | 5     | _____          | _____        | _____ | \$1350      |

\*Indicate whether component is to be decontaminated to unrestricted release levels or packaged and disposed of at a low-level waste site.

APPENDIX F (Continued)  
 COST ESTIMATING TABLES

|   |       |       |       |       |       |       |       |     |
|---|-------|-------|-------|-------|-------|-------|-------|-----|
| 3. Decon/Dis-<br>mantle<br>Waste Areas  | _____ | _____ | _____ | _____ | _____ | _____ | _____ | -0- |
| - Radwaste Areas  |       |       |       |       |       |       |       |     |
| - Scrap Recovery<br>Areas   |       |       |       |       |       |       |       |     |
| - Other   |       |       |       |       |       |       |       |     |
| 4. Decon/Dis-<br>mantle<br>Service<br>Facilities  | _____ | _____ | _____ | _____ | _____ | _____ | _____ | -0- |
| - Maintenance<br>Shop   |       |       |       |       |       |       |       |     |
| - Decontamination<br>Areas  |       |       |       |       |       |       |       |     |
| - Ventilation<br>systems  |       |       |       |       |       |       |       |     |
| - Other   |       |       |       |       |       |       |       |     |
| 5. Decon/Dis-<br>mantle Waste<br>Treatment<br>Facilities and<br>Storage Areas<br>on the Site<br>(Including exhume<br>and package<br>contaminated<br>soil and tail-<br>ings, if any) | _____ | _____ | _____ | _____ | _____ | _____ | _____ | -0- |
| - Fluoride Lagoons  |       |       |       |       |       |       |       |     |
| - Nitrate Lagoons   |       |       |       |       |       |       |       |     |
| - CaF <sub>2</sub> Waste<br>Recovery  |       |       |       |       |       |       |       |     |
| - Ground Water<br>Restoration   |       |       |       |       |       |       |       |     |
| - Other   |       |       |       |       |       |       |       |     |
| 6. Monitor for<br>compliance,<br>reclean and<br>remonitor,<br>if necessary  | _____ | _____ | _____ | _____ | _____ | _____ | _____ | -0- |
| 7. Other (e.g.,<br>contractor<br>fees)  | _____ | _____ | _____ | _____ | _____ | _____ | _____ | -0- |



APPENDIX F (Continued)  
COST ESTIMATING TABLES

Table 4

| Equipment/Supply           | Quantity      | Cost          |
|----------------------------|---------------|---------------|
| <u>MONITORING SUPPLIES</u> | <u>—</u>      | <u>\$ 300</u> |
| <u>CLEANING SUPPLIES</u>   | <u>      </u> | <u>\$ 200</u> |
| <u>      </u>              | <u>      </u> | <u>      </u> |
| <u>      </u>              | <u>      </u> | <u>      </u> |

3. Packaging, Shipping, and Disposal of Radioactive Wastes (WASTE COSTS ARE DESCRIBED IN ATTACHED SUPPLEMENT)

Table 5

| Waste Type    | Volume (m <sup>3</sup> ) | No. of Containers | Type of Containers | Unit Cost of Container | Cost of Container |
|---------------|--------------------------|-------------------|--------------------|------------------------|-------------------|
| <u>      </u> | <u>      </u>            | <u>      </u>     | <u>      </u>      | <u>      </u>          | <u>      </u>     |
| <u>      </u> | <u>      </u>            | <u>      </u>     | <u>      </u>      | <u>      </u>          | <u>      </u>     |
| <u>      </u> | <u>      </u>            | <u>      </u>     | <u>      </u>      | <u>      </u>          | <u>      </u>     |
| <u>Total</u>  | <u>      </u>            | <u>      </u>     | <u>      </u>      | <u>      </u>          | <u>      </u>     |

Table 6

| Distance Shipped       |                  |                        |                  |               |                     |
|------------------------|------------------|------------------------|------------------|---------------|---------------------|
| Unit cost for shipment | <u>      </u>    | (miles)                |                  |               |                     |
| Additional charges     | <u>      </u>    | (\$/mile/truckload)    |                  |               |                     |
| Overweight             | <u>      </u>    | (\$/mile)              |                  |               |                     |
| Surcharges             | <u>      </u>    | (\$/mile)              |                  |               |                     |
| Waste Type             | No. of Shipments | Unit Cost for Shipping | Distance Shipped | Surcharge     | Transportation Cost |
| <u>      </u>          | <u>      </u>    | <u>      </u>          | <u>      </u>    | <u>      </u> | <u>      </u>       |
| <u>      </u>          | <u>      </u>    | <u>      </u>          | <u>      </u>    | <u>      </u> | <u>      </u>       |
| <u>      </u>          | <u>      </u>    | <u>      </u>          | <u>      </u>    | <u>      </u> | <u>      </u>       |
| <u>Total</u>           | <u>      </u>    | <u>      </u>          | <u>      </u>    | <u>      </u> | <u>      </u>       |

Table 7

| Burial Charges |               |                      |               |               |
|----------------|---------------|----------------------|---------------|---------------|
| Surcharges     | <u>      </u> | (\$/m <sup>3</sup> ) |               |               |
| Per container  | <u>      </u> | (\$)                 |               |               |
| Disposal       | <u>      </u> | (\$/m <sup>3</sup> ) |               |               |
| Waste Type     | Burial Volume | Unit Cost of Burial  | Surcharge     | Burial Cost   |
| <u>      </u>  | <u>      </u> | <u>      </u>        | <u>      </u> | <u>      </u> |
| <u>      </u>  | <u>      </u> | <u>      </u>        | <u>      </u> | <u>      </u> |
| <u>      </u>  | <u>      </u> | <u>      </u>        | <u>      </u> | <u>      </u> |
| <u>Total</u>   | <u>      </u> | <u>      </u>        | <u>      </u> | <u>      </u> |

SUPPLEMENT TO THE MARINE BIOLOGICAL LABORATORY DFP  
COST ESTIMATING TABLES

3. Packaging, Shipping and Disposal of Radioactive Wastes

This section has been revised to reflect the fact that the MBL ships wastes in 55 gallon drums and that our vendor includes all material and transportation costs in their per drum disposal charge. For each waste type we have listed the maximum amount that might be on hand at the beginning of the decommissioning activity. Approximate current costs are shown. An additional 25% is allowed for the disposal of wastes generated during the decommissioning.

| <u>WASTE TYPE</u>    | <u>NO. OF DRUMS</u> | <u>COST PER DRUM</u>     | <u>SURCHARGE PER DRUM</u> | <u>TOTAL COST</u> |
|----------------------|---------------------|--------------------------|---------------------------|-------------------|
| Compacted Solids     | 6                   | \$385                    | \$300                     | \$4110            |
| Absorbed Liquids     | 4                   | 415                      | 300                       | 2860              |
| Radioactive LS Vials | 5                   | 370                      | -                         | 1850              |
| Deregulated Vials    | 3                   | 265                      | -                         | 795               |
| Animal Carcasses     | 1                   | 450                      | 300                       | 750               |
| Bulk Scint. Fluid    | 1                   | 255                      | -                         | 255               |
|                      |                     |                          |                           | -----             |
|                      |                     |                          |                           | \$10,620          |
|                      |                     | 25% Allowance            |                           | 2,655             |
|                      |                     |                          |                           | -----             |
|                      |                     | DFP Waste Cost Allowance |                           | \$13,275          |

APPENDIX F (Continued)  
 COST ESTIMATING TABLES

4. Restoration of Contaminated Areas on Facility Ground

Table 8

| <u>Task</u>               | <u>Supervisor</u> | <u>Work Days</u> |             |                 | <u>Total</u> | <u>Total Cost</u> |
|---------------------------|-------------------|------------------|-------------|-----------------|--------------|-------------------|
|                           |                   | <u>Foreman</u>   | <u>H.P.</u> | <u>Clerical</u> |              |                   |
| Backfill and Restore Site | _____             | _____            | _____       | _____           | _____        | _____             |
| _____                     | _____             | _____            | _____       | _____           | _____        | _____             |
| _____                     | _____             | _____            | _____       | _____           | _____        | - 0 -             |

5. Final Radiation Survey

Table 9

| <u>Task</u>  | <u>Supervisor</u> | <u>Work Days</u> |             |                 | <u>Total</u> | <u>Total Cost</u> |
|--------------|-------------------|------------------|-------------|-----------------|--------------|-------------------|
|              |                   | <u>Foreman</u>   | <u>H.P.</u> | <u>Clerical</u> |              |                   |
| _____        | _____             | _____            | _____       | _____           | _____        | _____             |
| _____        | _____             | _____            | _____       | _____           | _____        | _____             |
| <u>Total</u> | _____             | _____            | _____       | _____           | _____        | - 0 -             |

6. Site Stabilization, Long-Term Surveillance (if applicable)

Table 10

| <u>Task</u> | <u>Supervisor</u> | <u>Work Days</u> |             |                 | <u>Total</u> | <u>Total Cost</u> |
|-------------|-------------------|------------------|-------------|-----------------|--------------|-------------------|
|             |                   | <u>Foreman</u>   | <u>H.P.</u> | <u>Clerical</u> |              |                   |
| _____       | _____             | _____            | _____       | _____           | _____        | _____             |
| _____       | _____             | _____            | _____       | _____           | _____        | _____             |
| _____       | _____             | _____            | _____       | _____           | _____        | - 0 -             |

Falmouth  
National



P. O. BOX 887 • FALMOUTH, MASSACHUSETTS 02541

PHONE 617-548-1000

August 3, 1990

IRREVOCABLE STANDBY LETTER OF CREDIT NO. 7193

THIS CREDIT EXPIRES AUGUST 3, 1991

Issued To: U.S. Nuclear Regulatory Commission, Washington, D.C. 20555

Dear Sir or Madam;

We hereby establish our Irrevocable Standby Letter of Credit No. 7193 in your favor, at the request and for the account of Marine Biological Laboratory, Water Street, Woods Hole, MA 02543 up to the aggregate amount of Forty thousand and 00/100 U.S. Dollars (U.S.\$40,000.00) available upon presentation of:

- (1) your sight draft, bearing reference to this Letter of Credit No. 7193, and
- (2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the U.S. Nuclear Regulatory Commission."

This letter of credit is issued in accordance with regulations issued under the authority of the U.S. Nuclear Regulatory Commission (NRC), an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974. The NRC has promulgated regulations in Title 10, Chapter I of the Code of Federal Regulations, Parts [30,40,70 or 72], which require that a holder of, or applicant for, a licence issued under 10 CFR Parts [30,40,70 or 72] provide assurance that funds will be available when needed for decommissioning.

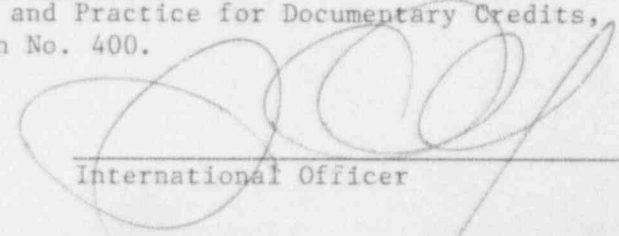
This letter of credit is effective as of August 3, 1990 and shall expire on August 3, 1991, but such expiration date shall be automatically extended for a period of one year on August 3, 1991 and on each successive expiration date, unless; at least 90 days before the current expiration date, we notify both you and Marine Biological Laboratory, as shown on the signed return receipts. If Marine Biological Laboratory is unable to secure alternative financial assurance to replace this letter of credit within 30 days of notification of cancellation the NRC may draw upon the full value of this letter of credit prior to cancellation. The bank shall give immediate notice to the applicant and the NRC of any notice received or action filed alleging (1) the insolvency or bankruptcy of the financial institution or (2) any violations of regulatory requirements that could result in suspension or revocation of the bank's charter or license to do business. The financial institution also shall give immediate notice if the bank, for any reason, becomes unable to fulfill its obligation under the letter of credit.

Whenever this letter of credit is drawn on under and in compliance with the terms of this letter of credit, we shall duly honor such draft upon its presentation to us within 30 days, and we shall deposit the amount of the draft directly into the standby trust fund of the licensee in accordance with your instructions.

Each draft must bear on its face the clause: "Drawn under Letter of Credit No. 7193, dated August 3, 1990, and the total of this draft and all other drafts previously drawn under this letter of credit does not exceed \_\_\_\_\_."

This credit is subject to the Uniform Customs and Practice for Documentary Credits, International Chamber of Commerce, Publication No. 400.

  
International Officer

  
International Officer

## STANDBY TRUST AGREEMENT

TRUST AGREEMENT, the Agreement entered into as of August 16, 1990 by and between The Marine Biological Laboratory, a Massachusetts corporation, herein referred to as the "Grantor," and The Falmouth National Bank, 84 Main Street, Falmouth, Massachusetts, 02540, the "Trustee."

WHEREAS, the U.S. Nuclear Regulatory Commission (NRC), an agency of the U.S. Government, pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, has promulgated regulations in Title 10, Chapter I of the Code of Federal Regulations, Part [30, 40, 70, or 72]. These regulations, applicable to the Grantor, require that a holder of, or an applicant for, a Part 30, 40, 70, or 72 license provide assurance that funds will be available when needed for required decommissioning activities.

WHEREAS, the Grantor has elected to use a Letter of Credit

to provide all of such financial assurance for the facilities identified herein; and

WHEREAS, when payment is made under a Letter of Credit

, this standby trust shall be used for the receipt of such payment; and

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this Agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

- (a) The term "Grantor" means the NRC licensee who enters into this Agreement and any successors or assigns of the Grantor.
- (b) The term "Trustee" means the trustee who enters into this Agreement and any successor Trustee.

Section 2. Costs of Decommissioning. This Agreement pertains to the costs of decommissioning the materials and activities identified in License Number 20-00515-02 issued pursuant to 10 CFR Part [30, 40, 70, or 72] as shown in Schedule A.

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a standby trust fund (the Fund) for the benefit of the NRC. The Grantor and the Trustee intend that no third party have access to the Fund except as provided herein.

#### 4.3.2 Standby Trust Agreement (Continued)

Section 4. Payments Constituting the Fund. Payments made to the Trustee for the Fund shall consist of cash, securities, or other liquid assets acceptable to the Trustee. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee are referred to as the "Fund," together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount of, or adequacy of the Fund, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the NRC.

Section 5. Payment for Required Activities Specified in the Plan. The Trustee shall make payments from the Fund to the Grantor upon presentation to the Trustee of the following:

- a. A certificate duly executed by the Secretary of the Depositor attesting to the occurrence of the events, and in the form set forth in the attached Specimen Certificate, and
- b. A certificate attesting to the following conditions;
  - (1) that decommissioning is proceeding pursuant to an NRC-approved plan.
  - (2) that the funds withdrawn will be expended for activities undertaken pursuant to that Plan, and
  - (3) that the NRC has been given 30 days' prior notice of [insert name of licensee]'s intent to withdraw funds from the escrow fund.

No withdrawal from the fund can exceed 0 percent of the outstanding balance of the Fund or 0 dollars, whichever is greater, unless NRC approval is attached.

In the event of the Grantor's default or inability to direct decommissioning activities, the Trustee shall make payments from the Fund as the NRC shall direct, in writing, to provide for the payment of the costs of required activities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the NRC, or State agency, from the Fund for expenditures for required activities in such amounts as the NRC, or State agency, shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the NRC specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 6. Trust Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund,

without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge its duties with respect to the Fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

- (a) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended (15 U.S.C. 80a-2(a)), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;
- (b) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal government; and
- (c) For a reasonable time, not to exceed 60 days, the Trustee is authorized to hold uninvested cash, awaiting investment or distribution, without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

- (a) To transfer from time to time any or all of the assets of the fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and
- (b) To purchase shares in any investment company registered under the Investment Company Act of 1940 (15 U.S.C. 80a-1 et seq.), including one that may be created, managed, underwritten, or to which investment advice is rendered, or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretion conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

- (a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale, as necessary for prudent management of the Fund;
- (b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

4.3.2 Standby Trust Agreement (Continued)

- (c) To register any securities held in the Fund in its own name, or in the name of a nominee, and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, to reinvest interest payments and funds from matured and redeemed instruments, to file proper forms concerning securities held in the Fund in a timely fashion with appropriate government agencies, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee or such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the U.S. Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;
- (d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal government; and
- (e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. After payment has been made into this standby trust fund, the Trustee shall annually, at least 30 days before the anniversary date of receipt of payment into the standby trust fund, furnish to the Grantor and to the NRC a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days before the anniversary date of the establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the NRC, or State agency, shall constitute a conclusively binding assent by the Grantor, barring the grantor from asserting any claim or liability against the Trustee with respect to the matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting on the advice of counsel.



#### 4.3.2 Standby Trust Agreement (Continued)

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing with the Grantor. (See Schedule C.)

Section 13. Successor Trustee. Upon 90 days notice to the Nuclear Regulatory Commission, the Trustee may resign; upon 90 days notice to the Nuclear Regulatory Commission and the Trustee, the Grantor may replace the Trustee; but such resignation or replacement shall not be effective until the Grantor has appointed a successor Trustee and this successor accepts the appointment. The successor Trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor Trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor Trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor Trustee or for instructions. The successor Trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the NRC or State agency, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are signatories to this agreement or such other designees as the Grantor may designate in writing. The Trustee shall be fully protected in acting without inquiry in accordance with the grantor's orders, requests, and instructions. If the NRC or State agency issues orders, requests, or instructions to the Trustee these shall be in writing, signed by the NRC, or State agency, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor, the NRC, or State agency, hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instruction from the Grantor and/or the NRC, or State agency, except as provided for herein.

Section 15. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee and the NRC, or State agency, or by the Trustee and the NRC or State Agency, if the Grantor ceases to exist.

Section 16. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 15, this trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the NRC or State agency, or by the Trustee and the NRC or State agency, if the Grantor ceases to exist. Upon termination of the trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor or its successor.

4.3.2 Standby Trust Agreement (Continued)

Section 17. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this trust, or in carrying out any directions by the Grantor, the NRC, or State agency, issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the trust fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 18. This Agreement shall be administered, construed, and enforced according to the laws of the State of [insert name of State].

Section 19. Interpretation and Severability. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement. If any part of this agreement is invalid, it shall not affect the remaining provisions which will remain valid and enforceable.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by the respective officers duly authorized and the incorporate seals to be hereunto affixed and attested as of the date first written above.

ATTEST:

*Ellen F. Baird*

*Marta Peravan*

THE MARINE BIOLOGICAL LABORATORY, GRANTOR

by:

*Harlyn O. Halvorson*  
Harlyn O. Halvorson, President

by:

*John W. Speer*  
John W. Speer, Controller

THE BALMOUTH NATIONAL BANK, TRUSTEE

by:

*Robert D. Cully*  
Robert D. Cully, Senior Vice President

ATTEST:

*[Signature]*

ACKNOWLEDGEMENT

STATE OF Massachusetts

To Wit: \_\_\_\_\_

CITY OF Falmouth

On this 16th day of August, before me, a notary public in and for the city and State aforesaid, personally appeared Robert D. Cully, and she/he did depose and say that she/he is the Sr. Vice President of The Falmouth National Bank, national banking association, Trustee, which executed the above instrument, that she/he knows the seal of said association; that the seal ffixed to such instrument is such corporate seal; that it was so affixed by order of the association; and that she/he signed her/his name thereto by like order.

*Jean L. Leggat*  
Notary Public

My commission expires: 9/30/94

LIST OF INSTRUCTIONS

MARINE BIOLOGICAL LABORATORY

In reviewing the comments the reviewer will note that there will be some overlap between ICF and OGC comments. The following comments should be included in the basis for the deficiency letter:

1. ICF comments 1 through 5 plus last paragraph.
2. All OGC comments.

All other comments and discussions are for reviewer information.

February 6, 1991

Note to: Louis Bykoski, NMSS/LLWM  
From: Mike Finkelstein, OGC/R&FC  
Re: Review of ICF Comments in 5th Package dated 1/7/91

For each of the submittals listed below, the regional reviewers must verify that the document is a signed copy of the original and duly notarized.

Unless otherwise stated, the ICF comments and recommendations are correct and should be implemented.

Marine Biological Laboratory (DFP, Letter of Credit)

All ICF recommendations should be implemented because the analysis is correct. Although a 0% withdrawal rate prior to agency permission is acceptable, the licensee should be given the option of amending Section 5 of the Standby Trust Agreement to include a 10% withdrawal provision.

ICF's assumption on restoration, stabilization and surveillance is again premature. Regional verification is necessary.



## ICF INCORPORATED

December 21, 1990

To: Dr. Lou Bykoski, NMSS/NRC

From: Greg Currey, David Mitamura, John Collier, and Michael Berg,  
ICF Incorporated

Subject: Review of Decommissioning Funding Plan with a Letter of Credit  
Submitted by Marine Biological Laboratory

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Marine Biological Laboratory in Woods Hole, Massachusetts submitted a decommissioning funding plan using a letter of credit in the amount of \$40,000. The submission assures estimated decommissioning costs of \$36,803. for license 20-00595-02 issued under 10 CFR Part 30. Upon review of the submission, ICF recommends that NRC Region I require the licensee to modify the submission in the following ways:

- (1) Submit additional detail to support the cost estimate;
- (2) Revise estimate of waste generated from decommissioning activities;
- (3) Incorporate a contingency factor into the total decommissioning cost estimate and clarify that no credit was taken for salvage value;
- (4) Submit a specimen certificate of events and specimen certificate of resolution with the standby trust agreement;  
and
- (5) Submit schedules A, B, and C of the standby trust agreement.

These recommendations and other issues are discussed below.

### (1) Submit Additional Detail to Support the Cost Estimate

Although the licensee itemized its cost estimate by using Appendix F of the draft *Regulatory Guide* "Standard Format and Content of Financial Assurance Mechanisms Required for Decommissioning Under 10 CFR Parts 30, 40, 70, and 72," January 1990, it did not provide sufficient information to support certain elements of its cost estimate. The licensee should submit additional information to support its estimate of five person-days required to decontaminate its laboratory components. (According to NUREG/CR-1754,

Addendum 1, Appendix A, eight person-days would be required to decontaminate one fume hood.<sup>1)</sup> In addition, the licensee should explain why it did not include laboratory walls and ventilation systems among the components to be decontaminated.<sup>2)</sup>

(2) Revise Estimate of Waste Generated from Decommissioning Activities

The licensee estimated that the amount of waste generated from decommissioning activities would be equivalent to 25 percent of its current waste storage. ICF recommends that the licensee either justify this estimate or use the tables in NUREG/CR-1754, Addendum 1, Appendix A to revise the estimate of its waste generation based on individual decommissioning activities and revise the decommissioning cost estimate accordingly.

(3) Incorporate a Contingency Factor into the Total Decommissioning Cost Estimate and Clarify that No Credit Was Taken for Salvage Value

The licensee included 1.5 person-days as a contingency factor in its estimate of the time required for planning and preparation. However, it has apparently not made any allowance for contingencies in other elements of its cost estimate. The draft *Regulatory Guide* recommends that a contingency factor be included in the decommissioning cost estimate. Incorporating a contingency factor in the cost estimate will help to ensure that the licensee is prepared for unexpected circumstances that could raise decommissioning costs. NUREG/CR-1754 uses a contingency factor of 25 percent in its cost estimates for each of six reference laboratories. ICF recommends that the licensee incorporate a contingency factor of 25 percent into its decommissioning cost estimates. The licensee may choose to use a lower contingency factor if it can show why a lower factor is appropriate. In addition, the licensee should clarify that it has not included in its cost estimate credit for any salvage value that may be realized with the sale of potential assets after decommissioning (see page 1-13 of the draft *Regulatory Guide*).

(4) Submit a Specimen Certificate of Events and Specimen Certificate of Resolution with the Standby Trust Agreement

The submission does not include a specimen certificate of events or a specimen certificate of resolution with the standby trust agreement. Section 5 of the standby trust agreement refers to a specimen certificate of events that is to be attached to the trust agreement. The specimen certificate of

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<sup>1</sup> NUREG/CR-1754, Addendum 1, Technology, Safety and Costs of Decommissioning Reference Non-Fuel-Cycle Nuclear Facilities: Compendium of Current Information, Pacific Northwest Laboratory, October 1989.

<sup>2</sup> ICF assumes that the licensee will not need to restore contaminated areas on facility grounds, stabilize the site, or perform long-term surveillance to properly decommission its facility because the licensee did not identify the need to conduct such activities in its decommissioning funding plan.

events, in turn, refers to an attached certificate of resolution. The specimen certificates provide the required format for instructing the trustee to release decommissioning funds from the trust. NRC should require the specimen certificates (which should contain blank spaces for dates and signatures until decommissioning activities have commenced) worded similarly to the specimen certificates on page 4-24 and page 4-25 of the draft *Regulatory Guide*.

(5) Submit Schedules A, B, and C of the Standby Trust Agreement

The licensee did not include the standby trust agreement schedules referred to in the submitted trust agreement and recommended by the draft *Regulatory Guide*. Schedule A of the standby trust agreement is important because it identifies the NRC license number, the name and address of the licensee, the address of the licensed activities, and the cost estimates applicable to the agreement. This information assists the trustee in determining if funds should be distributed for a specific facility. Schedule B lists the property initially placed in the agreement.<sup>3</sup> Schedule C states the trustee's compensation for serving as trustee. ICF recommends that NRC require the licensee to submit schedules A, B, and C of the standby trust agreement.

Other Issues

The licensee made a few other modifications to the provisions recommended in the draft *Regulatory Guide*, which do not decrease the protection provided by the mechanism. Apart from editorial and non-substantive changes, the following modifications are noteworthy:

- (1) Paragraph 5 of the letter of credit does not specify the maximum aggregate amount that can be withdrawn. This opening paragraph, however, states the amount of the letter of credit and is an implied limit applicable to Paragraph 5.
- (2) The standby trust agreement contains lines or phrases such as "insert name of licensee" that have not been replaced by the appropriate information. In all cases, however, the "missing" information is noted elsewhere in the agreement or is otherwise implicit in the agreement.

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<sup>3</sup> Schedule B is not critical to a standby trust because it usually does not have any property when established.



Finally, the Region should ensure that documents submitted by the licensee are originally signed duplicates, as recommended in the draft *Regulatory Guide*. Unless the documents have been properly signed, NRC cannot be certain that the financial assurance mechanism is enforceable. Because ICF does not possess the original submission, we cannot verify compliance with these requirements.

attachments

REVIEW OF DECOMMISSIONING FUNDING PLAN (DFF)

Name of company or institution:

Marine Biological Laboratory

Number of licenses and applicable regulations:

|               |                |
|---------------|----------------|
| <u>1</u>      | 10 CFR Part 30 |
| <u>      </u> | 10 CFR Part 40 |
| <u>      </u> | 10 CFR Part 70 |
| <u>      </u> | 10 CFR Part 72 |

Isotopes handled and possession limits (specify units):

|               |               |
|---------------|---------------|
| <u>      </u> | <u>      </u> |
| <u>      </u> | <u>      </u> |
| <u>      </u> | <u>      </u> |
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| <u>      </u> | <u>      </u> |
| <u>      </u> | <u>      </u> |
| <u>      </u> | <u>      </u> |

Total cost estimate for licenses listed above:

\$ 36,803.00

General comments on DFF:

Estimate has been adjusted for inflation through 1996.

CHECKLIST FOR REVIEWING DECOMMISSIONING FUNDING PLANS (DFF's)

QUESTIONS

COMMENTS

|   |   |
|---|---|
| <p>(1) Does the licensee provide supporting documentation for its cost estimates?</p> <p><input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No</p>             |   |
| <p>(2) Does the licensee use the Appendix F "Cost Estimating Tables?"</p> <p><input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No</p>                         |   |
| <p>(3) Does the cost estimate include the following major cost elements?</p>  |   |
| <p>(i) Planning and Preparation?</p> <p><input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No</p>  |   |
| <p>(ii) Decontamination and/or Dismantling of Radioactive Facility Components?</p> <p><input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No</p>                |   |
| <p>(iii) Packaging, Shipping, and Disposal of Radioactive Wastes?</p> <p><input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No</p>                             |   |
| <p>(iv) Restoration of Contaminated Areas on Facility Grounds?</p> <p><input type="checkbox"/> Yes    <input type="checkbox"/> No    <input checked="" type="checkbox"/> NA</p> | <p>This activity assumed to be not applicable because licensee states that there are no costs for this activity.</p>  |
| <p>(v) Final Radiation Survey?</p> <p><input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No</p>  | <p>Licensee states that this activity will not be necessary.</p>  |
| <p>(vi) Site Stabilization, Long-Term Surveillance?</p> <p><input type="checkbox"/> Yes    <input type="checkbox"/> No    <input checked="" type="checkbox"/> NA</p>            | <p>This activity assumed to be not applicable because licensee states that there are no costs from this activity.</p> |

CHECKLIST FOR REVIEWING DPP's (continued)

QUESTIONS

COMMENTS

|   |  |
|---|--|
| <p>(4) Is the total cost estimate reasonable for the type(s) and size(s) of facility licensed?</p> <p><input type="checkbox"/> Yes      <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Not Sure</p> | <p>See below.</p>  |
| <p>(5) Are the cost estimates for individual facility activities and/or components reasonable?</p> <p><input type="checkbox"/> Yes      <input type="checkbox"/> No</p> <p><input checked="" type="checkbox"/> Not Sure</p> | <p>Substantiate work days required for decontamination activities.</p> <p>Walls and ventilation system are not included in components to be decontaminated.</p> <p>Waste generated during decommissioning should be calculated from decontamination activities, not as a percentage of presently stored waste.</p> |

CHECKLIST FOR REVIEWING DFP's (continued)

QUESTIONS

COMMENTS

|   |  |
|---|--|
| <p>(6) Do the computations seem correct?</p> <p><input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No</p>  |  |
| <p>(7) Does the licensee take credit for the potential salvage value of recovered materials or decontaminated equipment?</p> <p><input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No</p>  | <p>Licensee does not mention Salvage value.</p>  |
| <p>(8) Does the licensee include a contingency factor in the cost estimate?</p> <p><input type="checkbox"/> Yes    <input checked="" type="checkbox"/> No</p>   | <p>Licensee includes 1.5 work days as a contingency in planning and preparation estimate, but does not mention an overall contingency factor.</p>              |
| <p>(9) Does the licensee provide a description of the methods that will be used to adjust the decommissioning cost estimate periodically over the life of the facility?</p> <p><input checked="" type="checkbox"/> Yes    <input type="checkbox"/> No</p> | <p>This cost estimate has been adjusted for 1996 inflation by assuming 5% inflation per year for labor and materials and 15% inflation for disposal costs.</p> |

APPENDIX A  
CHECKLIST FOR DECOMMISSIONING FINANCIAL ASSURANCE

NAME OF LICENSEE OR APPLICANT

MAILING ADDRESS

MARINE BIOLOGICAL LABORATORY  
WOODS HOLE, MA 02543

A. Licensee Part (check one of the following):

- Part 30 Licensee or Applicant       Part 70 Licensee or Applicant  
 Part 40 Licensee or Applicant       Part 72 Licensee or Applicant

B. Check appropriate item in each category (if applicable)

1. Aug 23, 1990 Date of Financial Assurance Submission  
Issue Date: Aug. 3, 1990
2.  Public Entity  
 Private Entity  
Effective Date: Aug 3, 1990  
Expiration Date: Aug 3, 1991
3.  Certification of Financial Assurance  
 Decommissioning Funding Plan
4. (a)  Prepayment Option (See Appendix B)
  - Trust Fund
  - Escrow Account
  - Certificate of Deposit
  - Government Fund
  - Deposit of Government Securities
- (b)  Surety/Insurance/Other Guarantee (See Appendix C)
  - Surety bond
  - Letter of Credit \$40,000
  - Line of Credit
  - Parent Company Guarantee/Financial Test\*
- (c)  External Sinking Fund, Sinking Account and Surety/Insurance (See Appendix D)
  - Trust Fund
  - Escrow Account
  - Certificate of Deposit
  - Government Fund
  - Deposit of Government Securities
  - Surety Bond
  - Letter of Credit
  - Line of Credit
- (d)  Statement of Intent (public entities only)

\*May not be used in combination with any other instrument.

APPENDIX C

CHECKLIST FOR SUBMISSION OF SURETY/INSURANCE/PARENT COMPANY GUARANTEE

A. Check Appropriate Form of Surety/Insurance/Guarantee

- Surety Bond
- Letter of Credit
- Line of Credit
- Parent Company Guarantee/Financial Test\*
- Insurance

B. Check Documents Submitted for Surety/Insurance/Guarantee

1. Surety Bond
  - Surety Bond
  - Standby Trust Agreement
  - Acknowledgement
2. Letter of Credit
  - Letter of Credit
  - Standby Trust Agreement
  - Acknowledgement

*not included:*  
Specimen Certificate of Events  
Certificate of Resolution  
Schedules A, B, and C  
wording very similar
3. Line of Credit
  - Verification
  - Standby Trust Agreement
  - Acknowledgement
4. Parent Company Guarantee
  - Letter from Chief Executive Officer of Applicant or Licensee
  - Letter from Chief Financial Officer of Parent Company
  - Financial Test: Alternative [I or II]
  - Auditor's Special Report and Attached Schedule
  - Corporate Guarantee
  - Standby Trust Agreement
  - Acknowledgement
5. Insurance
  - Certificate of Insurance
  - Standby Trust Agreement
  - Acknowledgement

May not be used in combination with any other instrument.

EXHIBIT 3-7

CHECKLIST OF CRITERIA FOR REVIEW OF LETTERS OF CREDIT

- Copy of corporate by-laws or other evidence indicating that parties signing the financial instrument (for the applicant) are authorized to represent the organization in the transaction. ~~RE~~ N/A

To be  
verified by  
Region

Evidence that the financial instrument is an originally signed duplicate (e.g., an executed copy of the instrument).

- ✓ Evidence that the financial institution is regulated by Federal or State agency (e.g., member of FDIC, Federal Reserve System, etc.). *Falmer's National*

- ✓ The instrument must be entitled a letter of credit.

- ✓ The letter should be limited in amount.

- ✓ The letter of credit must contain a specified expiration date or be written for a definite term.

- ✓ The issuer's obligation to pay the beneficiary should arise only upon presentation of a draft or other documents specified in the letter of credit.

- ✓ The bank must not be called upon to determine a question of fact or law ~~at~~ issue between the licensee and the Commission or State regulatory agency.

- ✓ The licensee should have an unqualified obligation to reimburse the issuer for payments made under the letter of credit.

- ✓ The letter of credit must be payable to a standby trust.



EXHIBIT 3-5

CHECKLIST OF CRITERIA FOR REVIEW OF TRUST AGREEMENTS<sup>a</sup>

- ✓ • Copy of corporate by-laws or other evidence indicating that parties signing the financial instrument (for the applicant) are authorized to represent the organization in the transaction. ~~NO~~ Files - OK

To be verified by Region

• Evidence that the financial instrument is an originally signed duplicate (e.g., an executed copy of the instrument).

- Evidence that the financial institution has authority to act as a trustee. ~~NO~~ ✓ See Directory of Trust Inst.

- ✓ • Purpose of trust ("whereas" clauses).

1. Description

- ✓ • Grantor or grantors (introductory paragraph).

1. Names

2. Addresses

- ✓ • Trustee or trustees.

1. Names and addresses

2. ~~Bank~~ or corporate trustee (introductory paragraph)

- ✓ • Identification of facilities and cost estimates (Section 2).<sup>b</sup>

<sup>a</sup> Adapted from 17A Am Jur Legal Forms 2d (Rev) §251.94.

<sup>b</sup> References are to recommended wording for trust agreements provided in Section 4.

EXHIBIT 3-5 (continued)

- ✓ • Words of transfer, conveyance, and delivery in trust (Section 3).
- ✓ • Payments constituting the trust fund (Section 4).
- ✓ • Duration of trust.
- ✓ • Description of trust property.
  1. Property described in attached schedule (Schedule B)
  2. Cash
  3. Stock and other securities
- ✓ • Additions to trust.
- ✓ • Distribution of trust principal (Section 5).
  - ✓ 1. Disbursement to licensee upon proper certification
  - ✓ 2. Payment for activities at NRC's direction in writing
  - ✓ 3. Refund to grantor at NRC's specification in writing after completion of decommissioning activities
  - ✓ 4. Withdrawal provisions must not exceed 10 percent.
- ✓ • Trust management (Sections 6-8). 0% p. 4-19
  1. Discretionary powers
  2. Fiduciary duty
  3. Commingling and investment
  4. Sale or exchange of trust property
  5. Scope of investments
  6. Express powers of trustee
  7. Borrowing money and encumbering trust assets
- (Optional provisions)

EXHIBIT 3-5 (continued)

8. Insurance
9. Operation of business
10. Compromise of claims

- ✓ • Taxes and expenses (Section 9).
- ✓ • Annual valuation (Section 10).
- ✓ • Advice of counsel (Section 11).
- ✓ • Authority, compensation, and tenure of trustees (Sections 12-14).
  1. Trustee compensation
  2. Successor trustee
  3. Instructions to trustee
- ✓ • Amendment of agreement (Section 15).
- ✓ • Irrevocability and termination (Section 16).
- ✓ • Immunity and indemnification (Section 17).
- ✓ • Law to govern construction and operation of trust (Section 18).
- ✓ • Interpretation and severability (Section 19).
  - Date (signature block).
- ✓ • Signatures (signature block).
- ✓ • Acknowledgements, seals or attestations, if necessary or desired (witness by notary public).
- ✓ • Acceptance of trust by trustee or trustees (acknowledgment).



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406

MEMORANDUM FOR: Louis Bykoski,  
NRC Project Officer, LLWM/LLRB

FROM: John D. Kinneman, Chief  
Nuclear Materials Safety Section B

SUBJECT: NONSTANDARD FINANCIAL ASSURANCE SUBMITTALS  
RELATED TO THE DECOMMISSIONING RULE

John Austin's August 6, 1990 memorandum set forth a procedure for submitting nonstandard financial assurance submittals to you for review by the NRC contractor. As I explained to you by telephone, we are presently concentrating on determining which licensees have not complied with the rule and do not expect to begin actual reviews of the submittals for several weeks. However, on the basis of a very brief scan we provide the attached submittals for review by the contractor.

| Licensee              | License No. | Control No. |
|-----------------------|-------------|-------------|
| Beth Israel Hospital  | 20-00742-18 | 112768      |
| Beth Israel Hospital  | 20-00742-19 | 113027      |
| Brandeis University   | 20-01958-05 | 112997      |
| ICI Pharmaceuticals   | 07-03990-01 | 113042      |
| U of Med & Dent of NJ | 29-02957-13 | 112891      |
| New England Med Ctr   | 20-03857-06 | 112738      |
| Yale University       | 06-00183-03 | 113034      |
| Pennsylvania State U  | 37-00185-04 | 113137      |
| Pennsylvania State U  | 37-00185-05 | 113138      |
| Pennsylvania State U  | 37-00185-06 | 113139      |
| Milton S. Hershey Med | 37-13831-01 | 113141      |
| Milton S. Hershey Med | 37-13831-04 | 113142      |
| University of Lowell  | 20-07446-02 | 112965      |
| University of Lowell  | 20-07446-03 | 112966      |
| Marine Biological Lab | 20-00595-02 | 113185      |

Louis Bykoski

2

Brigham and Women's Hosp

20-17131-01

112898

M/A Microwave Comp

20-02079-01

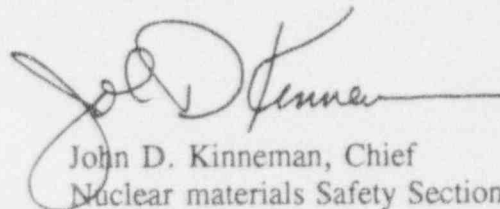
113043

Amersham Corporation

20-12836-01

112975

If any of you or the contractor believe any of these cases should more properly be reviewed by the Region, please return them. I have included several cases with cost estimates and one statement of intent which we would like your comments on. Some of these cases have obvious, minor deficiencies which we have not attempted to resolve so that we could provide the cases to you promptly.



John D. Kinneman, Chief  
Nuclear materials Safety Section B

cc: J. Glenn, NMSS

L. Bettenhausen, RI



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

MEMORANDUM FOR: Timothy C. Johnson  
Decommissioning and Regulatory Issues Branch

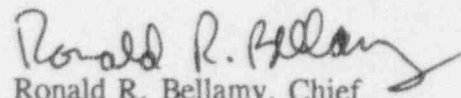
FROM: Ronald R. Bellamy, Chief  
Nuclear Materials Safety Branch  
Division of Radiation Safety  
and Safeguards, RI

SUBJECT: FINANCIAL ASSURANCE SUBMITTALS

Enclosed is the second group of financial assurance submittals for review by your staff. All of these proposals have been initially reviewed by my staff. A copy of the license has been inserted in each folder.

These documents are the official record file, so please return them with the proposed deficiency or approval letter to Anthony Dimitriadis, of my staff, the official contact for this project. If you or any members of your staff have any questions, do not hesitate to contact him at (215) 337-6953.

Again, I appreciate your assistance with these actions.

  
Ronald R. Bellamy, Chief  
Nuclear Materials Safety Branch  
Division of Radiation Safety  
and Safeguards

Enclosure: List of Files

cc:  
J. Austin, NMSS  
J. Glenn, NMSS  
S. Villar, RI

"OFFICIAL RECORD COPY"

List of Files

| <u>LICENSEE NAME</u>                     | <u>LICENSE NO.</u> | <u>DOCKET NO.</u>         |
|--|--------------------|---------------------------|
| Nuclear Energy Services                  | 06-20775-01        | 030-22060                 |
| *ICI Pharmaceuticals Group               | 07-03990-01        | 030-03868                 |
| Dept. of the Army<br>(Reed Med. Ctr.)    | 08-01738-02        | 030-01317                 |
| Dept. of the Army<br>(Reed Med. Ctr.)    | 08-01738-03        | 030-06895                 |
| Georgetown University                    | 08-03114-05        | 030-13627                 |
| Dept. of the Army<br>(Aberdeen)          | 19-00294-24        | 030-31110                 |
| Marine Biological Laboratory             | 20-00595-02        | 030-01813                 |
| Boston University                        | 20-00805-11        | 030-10860/SNM-1121        |
| Boston University                        | 20-02215-01        | 030-01845                 |
| Massachusetts Institute<br>of Technology | 20-01537-02        | 030-00763                 |
| AT&T Network Systems                     | 20-03527-01        | 030-04631                 |
| Raytheon Company                         | 20-16309-02        | 030-32031                 |
| Bartlett Nuclear, Inc.                   | 20-20633-01        | 030-20010                 |
| Whithead Inst. for Biomed.<br>Research   | 20-20706-02        | 030-20745                 |
| Isomedix Operations, Inc.                | 20-28791-01        | 030-32931/<br>29-19769-02 |
| Schering Corporation                     | 29-00244-02        | 030-05230                 |

\*ICI Pharmaceuticals Group has requested a name change to Zeneca Pharmaceuticals 4/93.

List of Files

| <u>LICENSEE NAME</u>                 | <u>LICENSE NO.</u> | <u>DOCKET NO.</u> |
|--------------------------------------|--------------------|-------------------|
| RTI, Incorporated (Process Tech.)    | 29-13613-02        | 030-07022         |
| Albert Einstein Med. Center          | 37-00448-19        | 030-07551         |
| Albert Einstein Med. Center          | 37-00448-17        | 030-07061         |
| Merck and Company, Inc.              | 29-00117-06        | 030-14680         |
| Merck Sharp & Dohme Research Labs.   | 37-01531-08        | 030-17552         |
| Biogen, Inc.                         | 20-19808-01        | 030-19268         |
| The Children's Hospital-Boston       | 20-09568-17        | 030-08021         |
| New England Medical Center Hospitals | 20-03857-06        | 030-01868         |
| Massachusetts General Hospital       | 20-03814-80        | 030-01867         |
| Lehigh University                    | 37-07912-02        | 030-00987         |
| ALARON Corporation                   | 37-20826-01        | 030-21230         |



030-01813



MARINE BIOLOGICAL LABORATORY

WOODS HOLE • MASSACHUSETTS • 02543 • (508) 548-3705

ANDREW M. MATTOX

August 3, 1990

John D. Kinneman, Chief  
Nuclear Materials Safety Section B  
Division of Radiation Safety and Safeguards  
Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, Pennsylvania 19406

RECEIVED  
90 AUG 15 P3:41  
U.S. N.R.C.  
IN. FEE MGMT. BRANCH

Dear Mr. Kinneman:

This letter is in regard to License 20-00595-02 issued to Marine Biological Laboratory (MBL), Woods Hole, Massachusetts. Despite repeated promises, our bank has still not provided us with the financial documents that we need to complete our decommissioning funding plan. I called the licensing branch last week to alert the NRC that we might be a few days late with our amendment request but I did not anticipate that the delay would be this extensive.

The last time I spoke to the bank they promised that the documents would be delivered no later than noon today. The rest of our amendment request is complete and the entire document will be sent as soon as we receive and review the financial paperwork. I hesitate to offer any definite completion date because the bank has not explained why they failed to meet their self imposed deadline.

Sincerely,

Andrew Mattox  
Radiation Safety Officer

|                   |             |
|-------------------|-------------|
| Log               | Andy - 25   |
| Permitter         |             |
| Ground No.        | 170-116 (4) |
| Amount            |             |
| Fee Category      | EX 3L       |
| Type of Fee       | 9 mil       |
| Date Check Rec'd. | 8/15/90     |
| Date Completed    | 8/16/90     |
| By:               | AM          |

113185  
8/6/90

OFFICIAL RECORD COPY MLTB

(FOR LFMS USE)  
INFORMATION FROM LTS

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

PROGRAM CODE: 03610  
STATUS CODE: 0  
FEE CATEGORY: ~~EX 3L~~ (in LTS now) 12/90  
EXP. DATE: 19910731  
FEE COMMENTS: 170.11(a)(4) off

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED  
APPLICANT/LICENSEE: MARINE BIOLOGICAL LAB.  
RECEIVED DATE: 900806  
DOCKET NO.: 3001813  
CONTROL NO.: 113185  
LICENSE NO.: 20-00595-02  
ACTION TYPE: AMENDMENT

2. FEE ATTACHED AMOUNT: \$0  
CHECK NO.: #10

3. COMMENTS

SIGNED R. J. Brown  
DATE 8-10-90

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED )

1. FEE CATEGORY AND AMOUNT: ~~3L~~ EX 3L 170.11(a)(4)

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:  
AMENDMENT   
RENEWAL \_\_\_\_\_  
LICENSE \_\_\_\_\_

3. OTHER \_\_\_\_\_

SIGNED \_\_\_\_\_  
DATE 8-21-90