

VIA FEDERAL EXPRESS

May 11, 2010

Alexander Adams, Jr.
Senior Project Manager
U.S. Nuclear Regulatory Commission
MS O-12-D-03
Washington, DC 20055



Re: MIT Self-Guarantee Request – License No. SNM-986, License No. R-37

Dear Mr. Adams:

On behalf of Regina Dugan I am enclosing copies of MIT's Request for Self Guarantee Pursuant to 10CFR Part 50, 10 CFR Part 70 and NUREG-1757, Vol. 3; and the executed Self-Guarantee Agreement. The originals have also been sent to the Office of Nuclear Material Safety and Safeguards via Federal Express.

Please ask if you should have any question.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Gail Fillion'.

Gail Fillion
Legal Assistant

Enclosures

cc: Regina Dugan, Esq.

A020
NRA



77 Massachusetts Avenue, Building 3-221
Cambridge, MA 02139-4307
Phone 617-253-1882

May 5, 2010

U.S. Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards
Washington, DC 20555-0001

Attention: Self-Guarantee Decommissioning Request and Application

Re: Request for Self Guarantee Pursuant to 10 CFR Part 50, 10 CFR Part 70 and NUREG-1757, Vol.3

Dear Sir/Madam:

In my capacity as the Executive Vice President and Treasurer of the Massachusetts Institute of Technology ("MIT"), a nonprofit university, I serve as MIT's Chief Financial Officer. This letter is in support of MIT's use of the self-guarantee financial test to demonstrate financial assurance, as specified in 10 CFR Part 50 and 10 CFR Part 70. MIT has no parent company.

MIT guarantees, through the self-guarantee submitted to demonstrate compliance under 10 CFR Part 50 and 10 CFR Part 70, the decommissioning of the following facilities owned or operated by MIT. The current cost estimates or certified amounts for decommissioning, so guaranteed, are shown for each facility:

<u>Name of Facility</u>	<u>License Number</u>	<u>Location of Facility</u>	<u>Certified Amounts or Current Cost Estimates</u>
MIT	SNM-986	77 Massachusetts Av Cambridge, MA 02139	\$1,125,000.00
MIT Research Reactor	R-37	138 Albany St. Cambridge, MA 02139	\$30,000,000.00

I hereby certify that MIT is currently a going concern, and that it possesses positive tangible net worth in the amount of \$9,946.5 million*.

MIT's fiscal year ends on June 30. The figures for the above item marked with an asterisk are derived from MIT's independently audited, year-end financial statements and footnotes for the latest completed fiscal year, ended June 30, 2009.

MIT is not required to file a Form 10-K with the U.S. Securities and Exchange Commission for the latest fiscal year.

MIT satisfies the following self-guarantee test:

1. Current bond rating of most recent uninsured, uncollateralized, and unencumbered issuance of this institution:

Rating: Aaa

Name of rating service: Moody's Investors Service

2. Date of issuance of bonds: January 8, 2009

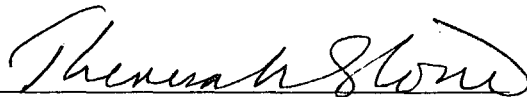
3. Description and date of maturity of bonds:

Amount	Interest Rate	Maturity Date	Description
\$10,000,000	4.00%	July 1, 2016	MHEFA Series O 57586ECG4
\$78,000,000	5.00%	July 1, 2016	MHEFA Series O 57586ECH2
\$23,485,000	5.00%	July 1, 2026	MHEFA Series O 57586ECJ8
\$47,975,000	5.75%	July 1, 2026	MHEFA Series O 57586ECK5
\$42,000,000	5.50%	July 1, 2036	MHEFA Series O 57586ECL3
\$65,000,000	6.00%	July 1, 2036	MHEFA Series O 57586ECM1

4. Is the rating specified on line 1 "A" or better? Yes

I hereby certify that the content of this letter is true and correct to the best of my knowledge.

Signature



Name: Theresa M. Stone

Title: Executive Vice President and Treasurer
(Chief Financial Officer)

Date: 5-5-10

SELF-GUARANTEE AGREEMENT

Guarantee made this 3rd day of May, 2010, by Massachusetts Institute of Technology ("MIT"), a "non-profit university," organized under the laws of the Commonwealth of Massachusetts, with principal place of administration at 77 Massachusetts Avenue, Cambridge, Massachusetts, herein referred to as "guarantor," to the U.S. Nuclear Regulatory Commission (NRC), beneficiary, on behalf of itself as licensee.

Recitals

1. The guarantor has full authority and capacity to enter into this self-guarantee under its bylaws, articles of incorporation, and the laws of the Commonwealth of Massachusetts.
2. This self-guarantee is being issued to comply with regulations issued by the 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. NRC has promulgated regulations in Title 10, Chapter I of the *Code of Federal Regulations*, Part 50, and Title 10, Chapter I of the *Code of Federal Regulations*, Part 70, which require that a holder of, or an applicant for, a materials license issued pursuant to 10 CFR Part 50 and 10 CFR Part 70, provide assurance that funds will be available when needed for required decommissioning activities.
3. The self-guarantee is issued to provide financial assurance for decommissioning activities for the licenses and facilities set forth in the following schedule and as required by 10 CFR Part 50 and 10 CFR Part 70 and Appendix E to 10 CFR Part 30 :

License No.	License Location and Description	Estimate based on year 2001 dollars	Certified Amounts or 2009 Cost Estimates
R-37	MIT Research Reactor, 138 Albany St., Cambridge MA 02139; education and research activities	\$23,000,000 , including a 10% contingency.	\$30,000,000 . Due to the contingency applied in 2001 and low to negative inflation factors in 2001-2007, no changes were made until 2008. The estimate was then adjusted based on separate inflation

			factors applied against the labor (representing 11% of the total) costs. Using the NUREG-1307, Rev. 12, Page D.1, Example 2 (Northeast Region), the respective inflation factors used for the '08 estimate were 1.28 (labor) and 1.42 (burial), to arrive at the estimate of \$29,793,000 for 2008, which was rounded up to \$30 million for 2009.. (See calculation below).
SNM-986	MIT Research Reactor, and 77 Massachusetts Ave., Cambridge MA 02139; storage of Special Nuclear Materials	\$1,125,000, statutory – in accordance with 10 C.F.R. 70.25(d), based on the applicable quantities of SNM stored at this facility.	\$1,125,000.
	Total Estimated Costs		\$31,125,000.

Decommissioning Estimate Adjustment Calculation:

Duke Study	23,000,000.00	%Total	NUREG Inflation Model	Inflator	29,793,000.00
Labor Portion	20,470,000.00	89%	Labor	1.28	26,200,000.00
Burial Portion	2,530,000.00	11%	Burial	1.42	3,593,000.00

Inflation figures for 2008, were calculated based upon NUREG-1307, for the years 2002 (year closest to when the Duke study was completed, 11/01) @ 1.862, and 2006 @ 2.21. The calculation for 2008 assumes linear cost increases through 2008:

Cost inflator for 2008 = $1.862 + \{(2.21 - 1.862) / (2006 - 2002) \times (2008 - 2002)\} = 2.384$. The factor for the labor portion of the cost to be applied in 2008 = $2.384 / 1.862 = 1.28$. The same method was used to develop the burial factor of 1.42.

In order to comply with the guarantor's longstanding commitment to being environmentally responsible, the reactor facility will be decontaminated, and spent nuclear materials will be properly transported by a licensed carrier to a licensed disposal facility only, to meet the requirements of 10 CFR 20.1402

radiological criteria for unrestricted use. Guarantor may not demolish the building, but the building and subsurface will be analyzed and characterized so that the site meets this criterion and is approved for release for unrestricted use. At the time decommissioning begins, guarantor shall determine the best computer codes and instrumentation for the specific decommissioning activities.

4. The guarantor meets or exceeds the following financial test criteria, as a nonprofit university that issues bonds, and agrees to comply with all notification requirements as specified in 10 CFR Part 50 and 10 CFR Part 70 and Appendix E to 10 CFR Part 30.

The guarantor meets the following self-guarantee test:

- (a) A current rating for its most recent uninsured, uncollateralized, and unencumbered bond issuance of AAA, AA, or A as issued by Standard & Poor's, or Aaa, Aa, or A as issued by Moody's.

Specifically, the current rating for guarantor's most recent uninsured, uncollateralized and unencumbered bond issuance is Aaa by Moody's Investors Service.

5. The guarantor does not have a parent company holding majority control of its voting stock.
6. Decommissioning activities as used below refer to the activities required by 10 CFR Part 50 and 10 CFR Part 70, for decommissioning of the facilities identified above.
7. Pursuant to the guarantor's authority to enter into this guarantee, the guarantor guarantees to NRC that the guarantor shall:
 - (a) carry out the required decommissioning activities, as required by License No. SNM-986 and License No. R-37 or
 - (b) set up a trust fund in favor of the above identified beneficiary in the amount of the current cost estimates for these activities.

8. The guarantor agrees to submit revised financial statements, financial test data, evidence of MIT's bond rating, and reconciling schedule annually within 90 days of the completion of its fiscal year-end audit.
9. The guarantor agrees that if, at the end of any fiscal year before termination of this self-guarantee, it fails to meet the self-guarantee financial test criteria, it shall send within 90 days of the end of the fiscal year, by certified mail, notice to NRC that it intends to provide alternative financial assurance as specified in 10 CFR Part 50 and 10 CFR Part 70. Within 120 days after the end of the fiscal year, the guarantor shall establish such financial assurance.
10. The guarantor also agrees to notify the beneficiary promptly if the ownership of the licensed activity is transferred, and to maintain this guarantee until the new licensee provides alternative financial assurance acceptable to the beneficiary.
11. The guarantor agrees that if it determines, at any time other than as described in Recital 9, that it no longer meets the self-guarantee financial test criteria or it is disallowed from continuing as a self-guarantor, it shall establish alternative financial assurance as specified in 10 CFR Part 50 and 10 CFR Part 70, as applicable, within 30 days.
12. The guarantor, as well as its successors and assigns, agrees to remain bound jointly and severally under this guarantee notwithstanding any or all of the following: amendment or modification of the license or NRC-approved decommissioning funding plan for that facility, the extension or reduction of the time of performance of required activities, or any other modification or alteration of an obligation of the licensee pursuant to 10 CFR Part 50 and 10 CFR Part 70.
13. The guarantor agrees that it shall be liable for all reasonable litigation costs incurred by the beneficiary, NRC, in any successful effort to enforce the agreement against the guarantor.
14. The guarantor agrees to remain bound under this self-guarantee for as long as it, as licensee, must comply with the applicable financial assurance requirements of 10 CFR Part 50 and 10 CFR Part 70, for the previously listed facilities, except that the guarantor may cancel this self-guarantee by sending notice by certified mail to NRC, such cancellation to

become effective not before an alternative financial assurance mechanism has been put in place by the guarantor.

15. The guarantor agrees that if it, as licensee, fails to provide alternative financial assurance as specified in 10 CFR Part 50 and 10 CFR Part 70, as applicable, and obtain written approval of such assurance from NRC within 90 days after a notice of cancellation by the guarantor is received by NRC from the guarantor, the guarantor shall make full payment under the self-guarantee in accordance with Recital 7(b) herein.
16. The guarantor expressly waives notice of acceptance of this self-guarantee by NRC. The guarantor expressly waives notice of amendments or modifications of the decommissioning requirements.
17. If the guarantor files financial reports with the U.S. Securities and Exchange Commission, then it shall promptly submit them to its independent auditor and to NRC during each year in which this self-guarantee is in effect.
18. The guarantor agrees that if, at any time before termination of this self-guarantee, its most recent bond issuance ceases to be rated in the category of "A" or above by either Standard & Poor's or Moody's, it shall provide notice in writing of such fact to NRC within 20 days after publication of the change by the rating service.

I hereby certify, under the penalty of perjury, that this self-guarantee is true and correct to the best of my knowledge.

Effective date: MAY 3, 2010

SELF-GUARANTOR:

Massachusetts Institute of Technology

By: Theresa M. Stone
Theresa M. Stone
Executive Vice President and Treasurer

Signature of witness or notary:

Sharon Pinksten

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