

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of	)	
	)	
GEORGIA INSTITUTE	)	
OF TECHNOLOGY	)	Docket No. 50-160-Ren
	)	
(Georgia Tech Research Reactor)	)	
	)	
(Renewal of License No. R-97)	)	

AFFIDAVIT OF MARVIN M. MENDONCA

Marvin M. Mendonca, being first duly sworn, does depose and state as follows:

1. I am employed by the U.S. Nuclear Regulatory Commission as a Senior Project Manager in the Non-Power Reactors and Decommissioning Project Directorate, Office of Nuclear Reactor Regulation. A statement of my professional qualifications is attached hereto.

2. I currently serve as the NRC project manager for licensing issues related to the Georgia Tech Research Reactor (GTRR). In this position, I have become familiar with matters related to the Georgia Institute of Technology's (the Licensee's) application to renew its license to operate the GTRR, including matters related to the security contention at issue in this proceeding.

3. The purpose of this affidavit is to respond to Question 2 in the Commission's "Order Issuing Housekeeping Stay," dated June 9, 1995, in which the Commission inquired as follows:

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How much time would the licensee need to remove the fuel from its research reactor, assuming the Commission were ultimately to agree with GANE that such removal were necessary to ensure public health and safety during the Olympic Games?

*Id.* at 3.

4. In response to this question, it should be understood that any estimates as to the time required to remove the high enriched uranium (HEU) from the GTRR is necessarily based upon circumstances known to exist at the present time; circumstances may change, however, possibly affecting the reliability of any estimates provided at this time. Also, the time required to remove the HEU from the GTRR will necessarily depend upon several factors, including the time in which a transportation cask can be made available to the Licensee by the U.S. Department of Energy (DOE); the time required for the Licensee to prepare for shipment of the HEU offsite; and the time required for DOE to prepare for receipt of the HEU. In this regard, the following information is provided.

5. Fuel Transfer Cask Scheduling. I have been informed by the Spent Fuel Program Manager for DOE at the Savannah River site that DOE establishes the schedule for use of the "BMI-1" cask (which, to my knowledge, is the only cask currently certified by the NRC for use in the shipment of research reactor fuel), and that only one of these casks is in existence at this time. The scheduling of this cask is usually done months, if not a year or so, in advance. The DOE Spent Fuel Program Manager indicated that currently, the cask is scheduled to transfer the GTRR HEU fuel on a priority basis in the February-March, 1996 time frame. This transfer is anticipated in connection with the NRC Staff's Order of June 16, 1995, modifying the license to authorize the Licensee to

convert from HEU fuel to low enriched uranium (LEU) fuel at the GTRR, in accordance with 10 C.F.R. § 50.64. (The University Reactor Fuels Assistance Program Manager for the Idaho National Engineering Laboratory has informed me that LEU fuel for the GTRR is being manufactured so as to be available in the same time frame as the HEU fuel is to be transported out.) This information is consistent with other information the NRC Staff has received previously.

6. In the event that the Commission were to decide that earlier removal of the GTRR HEU fuel is needed to ensure the public health and safety, the Director of DOE's Division for Reactors and Spent Fuel at the Savannah River site has informed me that, on an expedited basis, he estimates the cask could be made available in about one month after DOE receives notice of such a Commission requirement.

7. Licensee's Preparation for Fuel Shipment. I have been informed by Dr. R. Karam, Director of the Licensee's Neely Nuclear Research Center (which includes the GTRR), that the Licensee estimates the HEU fuel could be moved out of the GTRR facility in two weeks, assuming that the cask and all necessary approvals are in place. Based upon my knowledge of the Licensee's personnel and organization, and the time which has been required for other facilities to prepare for fuel shipment, I conclude that the Licensee should be able to prepare the fuel for shipment within this estimated two-week time period.

8. In addition to preparing the fuel for shipment, there are other activities which the Licensee would need to perform before shipping the fuel offsite, some of which are discussed in Paragraphs 9-12 below.

9. From past research reactor experience, examples of activities which the Licensee must accomplish prior to transfer of the HEU fuel to DOE include (a) developing a quality assurance plan and procedures to implement the quality assurance plan in accordance with NRC and U.S. Department of Transportation (DOT) regulations and with the certificate of compliance for the cask, (b) obtaining authorization from the NRC Office of Nuclear Material Safety and Safeguards (NMSS) as a certified cask user and completing the required material transfer form, (c) arranging for transportation carriers and drivers, (d) obtaining a window of time for transport, from NMSS, (e) obtaining shipping authorization numbers from DOE, and (f) notifying the DOE Savannah River office (the intended recipient of the fuel) and the appropriate State and local representatives of the anticipated shipment date and other related information. I have discussed these matters with Dr. Karam, who informed me that the Licensee should be able to satisfy these requirements prior to shipment of the HEU fuel, given the one-month time period which would exist prior to receipt of the cask and the Licensee's estimated two-week time period to ship the HEU fuel offsite. Based upon my knowledge of the Licensee's personnel and organization and the time which has been required for other facilities to meet these requirements, I conclude that the Licensee should be able to meet these requirements within the time estimated for receipt of the cask and preparation of the fuel for shipment (*i.e.*, within a period of approximately one and one-half months).

10. Storage Considerations. In a telephone conversation on June 14, 1995, the Director of the DOE Office of Spent Fuel Management confirmed that space has been reserved for the GTRR HEU fuel at the Savannah River site. In this conversation, the

DOE official also confirmed that the Licensee must provide technical information describing the spent fuel, as set forth in DOE's letter to the NRC Staff of August 11, 1994 (copy attached hereto), and confirmed the other points set forth in that letter, which stated as follows:

Our current plans are for the Georgia Tech spent fuel to be received at the Savannah River Site in February 1996. . . . [T]he final receipt date may change as the actual spent fuel shipment date approaches due to changes in the amount of time required to handle shipments received before the Georgia Tech shipment. Also, the receipt of the Georgia Tech spent fuel must be preceded by receipt of an acceptable Appendix A containing technical information describing the spent fuel in sufficient detail for the Savannah River Site personnel to complete their analyses of the spent fuel receipt and storage operations. Nevertheless, we do not expect resolution of these routine uncertainties to result in a significant change in the receipt date.

The Director of the DOE Reactors and Spent Fuel Division at the Savannah River site also confirmed these points.

11. In addition to the considerations set forth above, the Spent Fuel Program Manager for DOE at the Savannah River site informed me of a further potential time constraint on fuel receipt, relating to the cooling period required to comply with Savannah River storage facility safety analyses. The time constraint is that the spent HEU fuel may need to be cooled (*i.e.*, not operated) for 90 days prior to receipt. I was also informed that such a cooling period may not be needed for the GTRR HEU fuel if DOE performs an unresolved safety question evaluation which demonstrates that this cooling period is not applicable to the specific conditions of the GTRR fuel. The Spent Fuel Program Manager for DOE at the Savannah River site indicated that this analysis would be based on fission product inventory, that it would require several person-months

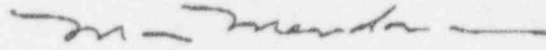
of effort, and that it could be performed in about a one-month time period (i.e., it could be performed within the time in which the cask is being delivered to the GTRR, if the NRC determines that expedited transfer of the GTRR fuel is necessary).

12. Transportation Approval. I have been informed by the NRC Section Chief responsible for safeguards routing assessments, in the Spent Fuel Project Office, NMSS, that safeguard routing approval generally takes 45 days, and could be accomplished during the one and one-half month time period estimated to be needed prior to fuel shipment. He also indicated that the safeguards routing assessment could be expedited to be accomplished in a shorter time frame (i.e., approximately two weeks to one month) should the Commission decide that removal of the fuel from the GTRR is required within a shorter time frame.

13. Based on the above considerations, I estimate that, on an expedited basis, the GTRR HEU fuel could be shipped off-site within about two months (allowing an extra two weeks for unexpected contingencies), or three months if a cooling period is required, following a decision by the Commission that the fuel's removal from the site is required to ensure the public health and safety.

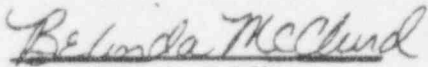
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14. The foregoing statements are true and correct to the best of my knowledge,  
information and belief.



Marvin M. Mendonca

Subscribed and sworn to before me  
this 21 day of June 1995



Notary Public

My commission expires: 1-21-98

MARVIN M. MENDONCA

Senior Project Manager  
Non-Power Reactors and Decommissioning Project Directorate  
Division of Project Support  
Office of Nuclear Reactor Regulation (NRR)  
Nuclear Regulatory Commission (NRC)

Education:	University of California, Berkeley	M.S./ME 1972
	University of California, Berkeley	B.S./ME 1971
	Modesto Junior College	A.A./Engr. 1969

Professional  
Experience: 1990 to Present - NRC Senior Project Manager for Non-Power Reactors and Decommissioning Project Directorate, NRR - Responsible for implementation of NRC regulatory program for approximately 20 non-power reactors.

1986 to 1990 - NRC Project Section Chief, Division of Reactor Projects and Safety, Region V - Responsible for implementation of NRC inspection program for Diablo Canyon and Trojan Nuclear Power Plants.

1983 to 1986 - NRC Senior Resident Inspector - Responsible for implementation of NRC inspection program at the Diablo Canyon Nuclear Power Plant during post-construction, pre-operational, startup and full power operational phases.

1981 to 1983 - NRC Resident Inspector - Responsible for inspection activities at the Diablo Canyon and San Onofre Nuclear Power Plants during the pre-operational phase.

1976 to 1981 - NRC Reactor Engineer, Reactor Systems Branch, NRR - Responsible for safety evaluation of reactor systems analyses, events and conditions at Pressurized and Boiling Water Reactors.

1972 to 1976 - Senior Engineer, General Atomics - Responsible for several safety analyses of core heatup, fission product release, and core testing for High Temperature Gas-Cooled Reactor designs.

Certification: Professional Mechanical Engineer Certified by the State of California



Department of Energy  
Washington, DC 20585

AUG 11 1994

Mr. Theodore S. Michaels, Senior Project Manager  
Non-Power Reactors and Decommissioning  
Project Directorate  
Division of Operating Reactor Support  
Office of Nuclear Reactor Regulation  
Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Mr. Michaels:

This is in reply to your letter to me on July 22, 1994 concerning removal of high enriched uranium spent fuel from the Georgia Institute of Technology research reactor site. Your letter specifically requested that we provide your office with the schedule on which the Savannah River Site can accept the spent fuel from the Georgia Tech reactor.

Our current plans are for the Georgia Tech spent fuel to be received at the Savannah River Site in February 1996. This schedule was developed with the concerns expressed in your letter in mind and should satisfy your intent. Please recognize that the final receipt date may change as the actual spent fuel shipment date approaches due to changes in the amount of time required to handle shipments received before the Georgia Tech shipment. Also, the receipt of the Georgia Tech spent fuel must be preceded by receipt of an acceptable Appendix A containing technical information describing the spent fuel in sufficient detail for the Savannah River Site personnel to complete their analyses of the spent fuel receipt and storage operations. Nevertheless, we do not expect resolution of these routine uncertainties to result in a significant change in the receipt date.

If you have any further questions, you can reach me at 202-586-0200.

Sincerely,

Charles R. Head  
Office of Spent Fuel Management

Copy to:  
Bill Clark, DOE/SR  
Ralph Erickson, EM-323



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USNRC

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

In the Matter of	)	
	)	
GEORGIA INSTITUTE	)	Docket No. 50-160-Ren
OF TECHNOLOGY	)	
	)	
(Georgia Tech Research Reactor)	)	
	)	ASLBP No. 95-704-01-Ren
(Renewal of License No. R-97)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S RESPONSE TO THE COMMISSION'S ORDER ISSUING HOUSEKEEPING STAY, DATED JUNE 9, 1995" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or as indicated by an asterisk through deposit in the Nuclear Regulatory Commission's internal mail system on this 21st day of June 1995.

Charles Bechhoefer, Chairman\*  
Administrative Judge  
Atomic Safety and Licensing Board  
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U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

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Administrative Judge  
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Washington, D. C. 20555

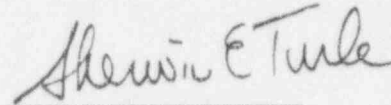
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