

~~PROPRIETARY INFORMATION~~

June 13, 2014

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)

AEROTEST OPERATIONS, INC.)

Docket No. 50-228-LT

(Aerotest Radiography and Research Reactor))

NRC STAFF TESTIMONY OF JOCELYN LIAN AND
ANNELIESE SIMMONS REGARDING DENIAL OF THE INDIRECT

LICENSE TRANSFER OF THE AEROTEST RADIOGRAPHY AND RESEARCH REACTOR

Introduction

Q.1. Please state your name, occupation, and by whom you are employed.

A.1a. My name is Jocelyn Lian (JL).¹ I am a Technical Assistant in the Division of Engineering, Office of Nuclear Reactor Regulation (NRR), at the U.S. Nuclear Regulatory Commission (NRC). I have been employed by the NRC for over four years. A statement of my professional qualifications is attached as Exhibit NRC-004.


A.1b. My name is Anneliese Simmons (AS). I am a Financial Analyst in the Division of Inspection and Regional Support, NRR, at the NRC. I have been employed by the NRC for over six years. A statement of my professional qualifications is attached as Exhibit NRC-005.

Background

Q.2. Please describe the nature of your responsibilities on behalf of the NRC.

A.2a. (JL) I am currently a Technical Assistant in the Division of Engineering. My responsibilities include supporting on a broad variety of program management, resource

¹ In this testimony, answers provided by specific witnesses are identified by denoting those witnesses' initials at the beginning of the answer. Where an answer is provided by all witnesses, the witnesses' initials are not provided.

	
In the Matter of: AEROTEST OPERATIONS, INC. (Aerotest Radiography and Research Reactor)	
ASLRP #: 14-931-01-LT-BD01	Identified: 8/12/2014
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Exhibit #: NRC-002-00-BD01	
Admitted: 8/12/2014	
Rejected: Other:	

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assessment, scheduling, program evaluation, policy development, and other technical review activities related to nuclear power plants, as well as coordinating information, budget, and contract management.

Previously, I was a Financial Analyst in NRR's Division of Inspection and Regional Support. My responsibilities included performing decommissioning funding reviews, editing guidance documents such as Office Instruction LIC 205, and writing safety evaluations for license transfers, Post Shutdown Decommissioning Activities Report, and irradiated fuel management plans. The areas of review that I was responsible for included foreign ownership, control, and domination (FOCD), decommissioning funding, financial qualifications, and insurance and indemnity issues.

Prior to that, I was a Reactor Operation Engineer in NRR's Division of Inspection and Regional Support. My responsibilities included managing implementation and interpretation of guidance for the Reactor Oversight Process (ROP), facilitating ROP monthly public meetings, and managing ROP self-assessment surveys and the analysis of the survey results.

A.2b. (AS) I am currently a Financial Analyst in NRR's Division of Inspection and Regional Support. My responsibilities include performing decommissioning funding reviews, editing guidance documents such as Regulatory Guide 1.159, "Assuring the Availability of Funds for Decommissioning Nuclear Reactors," and writing safety evaluations for license transfers, license renewals, and combined license applications. The areas of review that I am responsible for include FOCD, decommissioning funding, financial qualifications, and insurance and indemnity issues.

Q.3. Please explain what your duties have been in connection with the denial of the ARRR indirect license transfer application.

A.3a. (JL) I was the staff member responsible for the financial qualifications review of the indirect license transfer application for the Aerotest Radiography and Research Reactor (ARRR) resulting from the proposed acquisition of Aerotest Operations, Inc. (Aerotest) by Nuclear

Labyrinth, LLC (Nuclear Labyrinth) (collectively the Companies). I am the primary author of the related safety evaluation, "Safety Evaluation by the Office of Nuclear Reactor Regulation Indirect License Transfer of Aerotest Radiography and Research Reactor Due to the Proposed Acquisition of Aerotest Operations, Inc. by Nuclear Labyrinth, LLC," dated July 24, 2013 (SE).²

A.3b. (AS) As part of my official responsibilities, I provided input to Ms. Lian and reviewed her development of the SE with respect to financial qualifications and decommissioning.

Q.4. What is the purpose of your testimony?

A.4. The purpose of our testimony is to present the Staff's findings with respect to the denial of the Companies' indirect license transfer application and the Companies' subsequent disagreement with this denial as outlined in their Areas of Controversy.³ The Companies challenge the Staff's denial of the indirect license transfer application and the Staff's underlying determination that the Companies did not meet the requirements related to financial qualifications, and, therefore, did not meet the requirements of 10 C.F.R. § 50.33.

Q.5. Please identify the documents that you reviewed or relied on for purposes of preparing your testimony.

A.5. We reviewed the indirect license transfer application (Application),⁴ the Companies' response to the Staff's request for supplemental information to complete its

² Safety Evaluation by the Office of Nuclear Reactor Regulation Indirect License Transfer of Aerotest Radiography and Research Reactor Due to the Proposed Acquisition of Aerotest Operations, Inc. by Nuclear Labyrinth, LLC Facility Operating License No. R-98 Docket No. 50-228 (Jul. 24, 2013) [Exhibits NRC-027 and NRC-027(P)] (SE).

³ See Aerotest Operations, Inc. and Nuclear Labyrinth, LLC's Statement of Areas of Controversy Regarding Denial of Indirect License Transfer of Aerotest Radiography and Research Reactor (Apr. 22, 2014) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14112A162).

⁴ See Letter from Dario Brisighella, President, Aerotest Operations, Inc., and Dr. David M. Slaughter, Chief Executive Officer, Nuclear Labyrinth LLC, to NRC Document Control Desk, Application for Approval of Indirect Transfer of Control of License Pursuant to 10 C.F.R. § 50.80 (May 30, 2012) [Exhibit NRC-007]; Attachments 1-11 [Exhibits NRC-008 and NRC-008(P)] (Application).

acceptance review of the Application (RAI Response #1),⁵ and the Companies' responses to two subsequent Staff requests for additional information, RAI Response #2⁶ and RAI Response #3,⁷ respectively. We reviewed this information against the applicable regulations, including 10 C.F.R. § 50.2, § 50.33, § 50.21, § 50.34, § 50.22, § 50.75 and § 50.80, and guidance, NUREG-1537, "Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors."⁸ We also reviewed and considered previous license transfer applications and Staff analyses for the ARRR, as well as other Commission precedent.

Areas of Controversy

Q.6. Are you familiar with the Companies' Statement of Areas of Controversy?

A.6. Yes, we are familiar with the Companies' Statement of Areas of Controversy, which states, in part, that:

[T]he Companies disagree with the NRC Staff's conclusion, and each of the reasons supporting that conclusion, that Nuclear Labyrinth or Aerotest will have insufficient funding to conduct activities authorized by the Aerotest Radiography and Research Reactor ("ARRR") license if the license is indirectly transferred and that insufficient information was provided for the NRC Staff to determine whether there will be sufficient funds to cover the annual cost of spent fuel storage until the Department of Energy (DOE) accepts ARRR's spent fuel.⁹

⁵ See Letter from Jay Silberg, Counsel, Aerotest Operations, Inc., to NRC Document Control Desk, Response to Request to Aerotest Operations, Inc. and Nuclear Labyrinth LLC to Supplement the License Transfer Application (July 19, 2012) [Exhibits NRC-018, NRC-018(P)] (RAI Response #1).

⁶ See Letter from Jay Silberg, Counsel for Aerotest Operations, Inc., to NRC Document Control Desk, Response to Request for Additional Information Re: Application for Approval of Indirect Transfer of Control of License of Aerotest Radiography and Research Reactor Pursuant to 10 CFR 50.80 (Oct. 15, 2012) [Exhibits NRC-022 and NRC-022(P)] (RAI Response #2).

⁷ See Letter from Jay E. Silberg, Counsel for Aerotest Operations, Inc., to the NRC Document Control Desk, Response to Request for Additional Information Re: Application for Approval of Indirect Transfer of Control of License of Aerotest Radiography and Research Reactor Pursuant to CFR 50.80 (Jan. 10, 2013) [Exhibits NRC-026 and NRC-026(P)] (RAI Response #3).

⁸ See NUREG-1537, Part 2, Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors Standard Review Plan and Acceptance Criteria (Feb. 1996) [Exhibit NRC-029] (NUREG-1537, Part 2).

⁹ Aerotest Operations, Inc. and Nuclear Labyrinth, LLC's Statement of Areas of Controversy Regarding Denial of Indirect License Transfer of Aerotest Radiography and Research Reactor, at 1 (Apr. 22, 2014) (ADAMS Accession No. ML14112A162).

We further understand that, in response to this statement, the Presiding Officer has ruled that the areas of litigable controversy in this license transfer proceeding are: (1) whether the Staff correctly determined that the Companies failed to demonstrate that they possess, or have reasonable assurance of obtaining the funds necessary to cover, estimated operating costs for the period of the license; and (2) whether the Staff correctly determined that the Companies failed to provide reasonable assurance that they had sufficient funds to cover the annual costs for storing spent fuel until DOE accepts the fuel.¹⁰

Q.7. Do you agree with the Companies' assertions in the Areas of Controversy?

A.7. No. The Staff determined that the Companies do not meet the financial qualifications requirements in 10 C.F.R. § 50.33 because they did not demonstrate their financial qualification to carry out, in accordance with the Commission's regulations, the activities for which the ARRR is licensed. The Companies' assertion that their projected future revenue will cover their estimated total annual operating costs for the operation of the ARRR and any future spent fuel storage costs is insufficient because it relies on: (1) a funding commitment that covers only the first 12 months of operating costs; (2) speculative and unreasonable revenue projections for years two through five; (3) cost-and-revenue projections that do not take into consideration the possibility of additional costs related to replacement of damaged fuel elements; and (4) the assumption that the Companies will accumulate enough funds from a fuel storage fee assessed against ARRR operations in order to cover fuel storage costs until 2055. These assumptions are seriously at odds with governing realities and do not resolve uncertainties surrounding the transfer that remain significantly greater than those that usually cloud business outlooks.

¹⁰ Memorandum and Order (Ruling on Admissibility of Areas of Controversy), at 4 (May 22, 2014) (ADAMS Accession No. ML14142A237).

Applicable Regulatory Requirements and Guidance

Q.8. What are the Commission's regulatory requirements related to transfers of operating licenses?

A.8. The requirements for a license transfer are found in 10 C.F.R. § 50.80, "Transfer of licenses." The NRC's regulation under 10 C.F.R. § 50.80(a) states, in part, that, "[n]o license for a production or utilization facility . . . shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission gives its consent in writing."

Q.9. Where do the financial qualifications requirements originate?

A.9. The Commission derives its authority to review license applicants' financial qualifications from Section 182a. of the Atomic Energy Act of 1954, as amended (AEA), which provides in part, that:

Each application for a license hereunder shall be in writing and shall specifically state such information as the Commission, by rule or regulation, may determine to be necessary to decide such of the technical and financial qualifications of the applicant, the character of the applicant, the citizenship of the applicant, or any other qualifications of the applicant as the Commission may deem appropriate for the license.

Q.10. What specific regulatory requirements must an applicant meet regarding financial qualifications for a license transfer?

A.10. The requirements of 10 C.F.R. § 50.80(b) state that a transfer of an operating license requires "as much of the information described in §§ 50.33 and 50.34 of this part with respect to the identity and technical and financial qualifications of the proposed transferee as would be required by those sections if the application were for an initial license."

Section 50.80(c) states, in part, that:

[T]he Commission will approve an application for the transfer of a license, if the Commission determines:

(1) That the proposed transferee is qualified to be the holder of the license; and

(2) That transfer of the license is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission pursuant thereto.

The NRC's regulation at 10 C.F.R. § 50.33(f), "Contents of applications; general information," states, in part, that:

Except for an electric utility applicant for a license to operate a utilization facility of the type described in § 50.21(b) or § 50.22, information sufficient to demonstrate to the Commission the financial qualification of the applicant to carry out, in accordance with regulations in this chapter, the activities for which the permit or license is sought.

Section 50.33(f)(2) provides:

If the application is for an operating license, the applicant shall submit information that demonstrates the applicant possesses or has reasonable assurance of obtaining the funds necessary to cover estimated operation costs for the period of the license. The applicant shall submit estimates for total annual operating costs for each of the first five years of operation of the facility. The applicant shall also indicate the source(s) of funds to cover these costs.

In accordance with 10 C.F.R. § 50.2, an "electric utility" is:

[A]ny entity that generates or distributes electricity and which recovers the cost of this electricity, either directly or indirectly, through rates established by the entity itself or by a separate regulatory authority. Investor-owned utilities, including generation or distribution subsidiaries, public utility districts, municipalities, rural electric cooperatives, and State and Federal agencies, including associations of any of the foregoing, are included within the meaning of "electric utility."

Aerotest does not meet this definition of an electric utility, because, among other things, it does not generate or distribute electricity. It is, therefore, required to demonstrate, in accordance with 10 C.F.R. § 50.33(f), the financial qualifications required to carry out the licensed activities of the ARRR.

With respect to the level of assurance that the Commission requires for the applicant's ability to meet its financial obligations, the Commission has stated that its standard is

less than the extremely high assurance the Commission requires regarding the safety of reactor design, construction, and

operation. The Commission will accept financial assurances based on *plausible assumptions and forecasts*, even though the possibility is not insignificant that things will turn out less favorably than expected. Thus, the mere casting of doubt on some aspects of proposed funding plans is not by itself sufficient to defeat a finding of reasonable assurance.

At the same time, though, funding plans that rely on *assumptions seriously at odds with governing realities* will not be deemed acceptable simply because their form matches plans described in the regulations. . . . [Therefore,] we cannot brush aside . . . economically based safety concerns [such as that the applicant's cost-and-revenue estimates fail to provide the required assurance because they do not reflect a realistic outlook for the applicant or for the nuclear power industry in the region.] [However, such arguments] ultimately will prevail only if [they] can demonstrate *relevant uncertainties significantly greater than those that usually cloud business outlooks*.¹¹

Finally, section 50.33(f)(5) provides that:

The Commission may request an established entity or newly-formed entity to submit additional or more detailed information respecting its financial arrangements and status of funds if the Commission considers this information appropriate. This may include information regarding a licensee's ability to continue the conduct of the activities authorized by the license and to decommission the facility.

Q.11. Is Nuclear Labyrinth a newly-formed entity?

A.11. Yes. Nuclear Labyrinth, LLC is a newly-formed entity because it was organized for the primary purpose of operating the ARRR, as indicated by the Companies.¹²

Q.12. Are there additional financial qualifications requirements specific to a newly-formed entity?

A.12. Yes. Pursuant to 10 CFR § 50.33(f)(4):

Each application for a construction permit, operating license, or combined license submitted by a newly-formed entity organized for the primary purpose of constructing and/or operating a facility must also include information showing:

¹¹ *North Atlantic Energy Service Corporation* (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 221-22 (1999) (emphasis added).

¹² Exhibits NRC-018 (RAI Response #1), at 6 and NRC-018(P) (RAI Response #1), at 5.

- i. The legal and financial relationships it has or proposes to have with its stockholders or owners;
- ii. The stockholders' or owners' financial ability to meet any contractual obligation to the entity which they have incurred or proposed to incur; and
- iii. Any other information considered necessary by the Commission to enable it to determine the applicant's financial qualification.

Q.13. What guidance did the Staff use for its financial qualifications review?

A.13. In conducting this evaluation, the Staff was guided by NUREG-1537, "Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors," dated February 1996.¹³ The Staff uses this document to guide its determination of whether a licensee or applicant is financially qualified to own, operate, and decommission a non-power reactor. With respect to financial qualifications, this document states, in part, that, "the reviewer should evaluate information which demonstrates that the applicant possesses, or has reasonable assurance of obtaining, the funds necessary to cover estimated operating costs for the duration of the license."¹⁴

Q.14. Did the Staff rely on NUREG-1577?

A.14. No. NUREG-1577, "Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance" is not applicable to the Staff's review of the Companies' indirect license transfer application because the ARRR is a non-power, not a power, reactor. Thus, the Staff's review related to the ARRR was guided by NUREG-1537 instead, which applies to non-power reactors like the ARRR.

¹³ See Exhibit NRC-029 (NUREG-1537, Part 2).

¹⁴ *Id.* at 4.

Application Overview

Q.15. What is the ARRR?

A.15. The ARRR is a commercial non-power reactor located in San Ramon, California.¹⁵

Q.16. Who is the current licensee of the ARRR?

A.16. Aerotest is the holder of Facility Operating License No. R-98, issued on July 2, 1965, for the ARRR.¹⁶ Facility Operating License No. R-98 was issued pursuant to AEA § 104c. and 10 C.F.R. Part 50.¹⁷ The license authorizes the operation of the ARRR in accordance with the conditions specified therein.

Q.17. Which parties were involved in the proposed indirect license transfer?

A.17. On May 30, 2012, Aerotest and Nuclear Labyrinth jointly submitted an application for an indirect license transfer (Application).¹⁸ The indirect license transfer was to involve the acquisition of Aerotest by Nuclear Labyrinth, which would take the place of Aerotest's current ultimate parent, Autoliv, Inc. (Autoliv).¹⁹ Additionally, upon closing the transaction, Autoliv would transfer to Nuclear Labyrinth enough funds to staff the facility for approximately twelve months, as well as the funds to decommission the facility and to pay for the transportation of its spent fuel to DOE in 2055 at the earliest.²⁰

Q.18. Did you conduct an acceptance review of the Application?

A.18. Yes.

Q.19. What did the acceptance review entail?

¹⁵ See Aerotest Operations, Inc., Docket No. 50-228, Aerotest Radiography and Research Reactor (ARRR), Amendment to Facility Operating License, Amendment No. 1, License No. R-98 [Exhibit NRC-009] (ARRR License).

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ See Exhibits NRC-008 (Application) and NRC-008(P) (Application).

¹⁹ Exhibits NRC-008 (Application), at 4 and NRC-008(P) (Application), at 4.

²⁰ *Id.*

A.19. (JL) I reviewed the information in the Application to determine whether, on the face of the Application, the Companies had provided the information required by the Commission's financial qualifications regulations in sufficient detail so that I could begin the financial qualifications review.

Q.20. What information did the Companies provide in the Application?

A.20. The Companies provided, among other things, estimates for total annual operating costs and projected revenues or sources of funds for the first five years after license transfer.²¹ The staff refers to this statement as a five-year pro forma income statement, because it is a projection or "pro-forma" as opposed to an audited income statement. Operating costs are also referred to as operations and maintenance expenses or "O&M". The Companies also provided a decommissioning plan and associated costs, a description of the committed and potential sources of funds for operating and decommissioning the ARRR, and its underlying assumptions for this information.²²

Q.21. What was the result of your acceptance review?

A.21. (JL) I determined that there was insufficient information in the Application to conduct the financial qualifications review.

Q.22. What information was missing from the Application?

A.22. Although the Companies had provided a five-year financial projection as is required by 10 CFR 50.33, they did not provide sufficient information for the Staff to evaluate the adequacy of the assumptions underlying this projection.

Q.23. How did you proceed?

A.23. I prepared a request for supplemental information (hereinafter RAI #1) asking the Companies, among other things, to provide "the source(s) of funds to cover the projected operating costs . . . [s]pecifically . . . any committed sources of funds (e.g., commercial,

²¹ See *generally* Exhibits NRC-008 (Application) and NRC-008(P) (Application).

²² *Id.*

government, educational) . . . [along with] any applicable commitments, letters of intent, or contracts”²³ and “[s]ince future funding is expected to be provided from decommissioning fees charged to users of the ARRR . . . any commitments, letters of intents, or contracts entered into with potential users of the ARRR.”²⁴

The Staff also held a conference call with the Companies to discuss the additional information necessary for acceptance of the Application.²⁵

Q.24. Did the Companies provide additional information?

A.24. Yes, the Companies responded on July 19, 2012.²⁶ After reviewing the information provided in the response (RAI Response #1), I found that the Companies had met the acceptance criteria and that I could begin the review with the understanding that any additional information that might be needed could be obtained by issuing requests for additional information.

Q.25. During the course of your review of the Application, did you request additional information from the Companies?

A.25. (JL) Yes, I requested additional information on September 14²⁷ and December 10, 2012.²⁸ Among other things, I requested more information regarding the Companies’ plans

²³ See Letter from Jessie Quichocho, Chief, DPR, NRC to Dario Brisighella, President, Aerotest Operations, Inc., and David M. Slaughter, Chief Executive Officer, Nuclear Labyrinth, LLC, Request to Aerotest Operations, Inc. and Nuclear Labyrinth LLC to Supplement the License Transfer Application (July 5, 2012) [Exhibit NRC-016]; Enclosure, Required Supplemental Information For The NRC Acceptance Review of the License Transfer Applications Which Was Submitted by Aerotest and Nuclear Labyrinth, at 1 [Exhibit NRC-017] (RAI #1).

²⁴ *Id.* at 1.

²⁵ See Note to File from Spyros Traiforos, NRC, Summary of the Informal Conference Call of June 21, 2012, Between Aerotest Operations, Inc./Nuclear Labyrinth, and the NRC (July 15, 2012) [Exhibit NRC-041].

²⁶ See Exhibits NRC-018 (RAI Response #1) and NRC-018(P) (RAI Response #1).

²⁷ See Letter from Alexander Adams, Senior Project Manager, NRC, to Dario Brisighella, President, Aerotest Operations, Inc., and David M. Slaughter, Chief Executive Officer, Nuclear Labyrinth, LLC, Aerotest Operations, Inc., and Nuclear Labyrinth LLC – Request for Additional Information Re: Application for Approval of Indirect Transfer of Control of License of Aerotest Radiography and Research Reactor Pursuant to 10 CFR 50.80 (Sep. 14, 2012) [Exhibit NRC-020]; Enclosure, Request for Additional

to obtain the funds that they were projecting in their five-year costs-and-revenue projections as well as the Companies' alternative funds in the event that the projected funds are not obtained.²⁹ I also requested that the Companies provide information sufficient to demonstrate their "financial ability to provide funding for all liabilities regarding the management, storage, removal and disposal of the nuclear fuel located at the facility"³⁰ as well as itemized estimated annual fuel storage costs and the sources of funds for these costs.³¹ I also inquired regarding NRC inspection reports indicating that certain fuel elements at the ARRR are required to be removed from service and whether this affected the Companies' financial projections and whether the purchase of new fuel would have to be considered.³²

Q.26. Based on the Application and the Companies' responses to your requests for additional information, what were your findings regarding financial qualifications?

A.26. The Staff determined that the Companies' did not provide adequate sources of funds to cover their estimated total annual operating costs for each of the first five years of operation of the ARRR and any future spent fuel storage costs because they relied on assumptions that are seriously at odds with governing realities and did not resolve uncertainties surrounding the transfer that remain significantly greater than those that usually cloud business

Information Regarding the Indirect License Transfer Aerotest Radiography and Research Reactor Facility Operating License No. R-98 Docket No. 50-228 [Exhibits NRC-021 and NRC-021(P)] (RAI #2).

²⁸ See Letter from Alexander Adams, Senior Project Manager, NRC, to Dario Brisighella, President, Aerotest Operations, Inc., and David M. Slaughter, Chief Executive Officer, Nuclear Labyrinth, LLC, Aerotest Operations, Inc., and Nuclear Labyrinth LLC – Request for Additional Information Re: Application for Approval of Indirect Transfer of Control of License of Aerotest Radiography and Research Reactor Pursuant to 10 CFR 50.80 (Dec. 10, 2012) [Exhibit NRC-023]; Enclosure, Office of Nuclear Reactor Regulation Request for Additional Information Re: Application for Indirect License Transfer of Aerotest Radiography and Research Reactor Facility Operating License No. R-98 Docket No. 50-228 [Exhibits NRC-024 and NRC-024(P)] (RAI #3).

²⁹ Exhibits NRC-021 (RAI #2), at 2-3; NRC-021(P) (RAI #2), at 2-3; NRC-024 (RAI #3), at 1; NRC-024(P) (RAI #3), at 1.

³⁰ Exhibits NRC-021 (RAI #2), at 3 and NRC-021(P) (RAI #2), at 3.

³¹ Exhibits NRC-024 (RAI #3), at 4 and NRC-024(P) (RAI #3), at 4.

³² See Exhibits NRC-021 (RAI #2), at 2, 3; NRC-021(P) (RAI #2), at 2, 3; NRC-024 (RAI #3), at 4-5; NRC-024(P) (RAI #3), at 4.

outlooks. Specifically, the Companies: (1) did not demonstrate that their revenue projections were reasonable and would cover operational costs for the first five years of operation; and (2) did not resolve the level of uncertainty regarding the technical ability of the ARRR to operate and produce revenue for the life of the license sufficient to fund their spent fuel management obligations.³³ Based on these determinations, we concluded that the Companies do not meet “the financial qualification requirements under 10 CFR 50.33(f) because they have not demonstrated that they possess or have reasonable assurance of obtaining the funds necessary to cover estimated operating costs for the period of the license.”³⁴

The Staff’s Review of Estimated Operating Costs and Sources of Funds

Q.27. What were the assumptions described by the Companies to support their estimated operating expenses?

A.27. (JL) The Companies provided assumptions to support their operational cost estimates for four asserted “revenue generating areas”: neutron radiography, training, research utilizing the ARRR, and other research activities which do not utilize the ARRR.³⁵ The Companies stated that the operating costs for the first year were based on historic cost data (the actual costs for 2011).³⁶ For years 2-5, the costs that the Companies identified were unadjusted cost, fuel credit (accounting for fuel burn-up and replacement), charges mandated by the NRC, and a spent fuel storage fee.³⁷ I found this to be a reasonable assumption at the time. The Companies also applied a three percent escalation rate for inflation for years 2-5 of

³³ Exhibits NRC-027 (SE), at 7, 9-11 and NRC-027(P) (SE), at 7, 9-11.

³⁴ Exhibits NRC-027 (SE), at 9 and NRC-027(P) (SE), at 9.

³⁵ Exhibits NRC-026 (RAI Response #3), at 4-5; NRC-026(P) (RAI Response #3), at 1-2; NRC-008 (Application), at 10-11; NRC-008(P) (Application), at 10-11.

³⁶ Exhibits NRC-026 (RAI Response #3), at 4; NRC-026(P) (RAI Response #3), at 1.

³⁷ Exhibits NRC-026 (RAI Response #3), at 4; NRC-026(P) (RAI Response #3), at 2; NRC-008 (Application), at 11; NRC-008(P) (Application), at 11.

operating costs (for neutron radiography and training).³⁸ I also found this assumption to be reasonable because it was consistent with historic inflation data.³⁹ The Companies also stated that their operational costs to support future research activities would increase proportionally to the amount of research activities performed.⁴⁰ I found this to be a reasonable assumption.

Q.28. What was your overall conclusion regarding O&M?

A.28. (JL) I found the Companies' underlying cost assumptions to be reasonable at the time.

Q.29. What were the Companies' estimated costs for the first five years?

A.29. Based on the Companies' response to RAI #3, their estimated costs for the first five years are as follows:

<u>1 year</u>	<u>2 year</u>	<u>3 year</u>	<u>4 year</u>	<u>5 year</u>
████████	████████	████████	████████	████████

Thus, the total estimated cost for five years was ██████████.

Q.30. Did you review the Companies' sources of funds to cover these estimated costs?

A.30. Yes.

Q.31. What information regarding revenue projections should an applicant provide?

A.31. In accordance with 10 C.F.R. § 50.33(f)(2), applicants demonstrate that they have reasonable assurance of obtaining the funds necessary to cover estimated operation costs for the period of the license by submitting estimates for total annual operating costs for each of the first five years of operation of the facility and indicating the sources of funds to cover these costs. Per NUREG-1537, applicants should estimate the first five years of operating costs and give a "reliable basis" for the estimate, such as past operating costs or costs of operating similar

³⁸ *Id.*

³⁹ See, e.g., Exhibits NRC-022 (RAI Response #2), at 10 and NRC-022(P) (RAI Response #2), at 6.

⁴⁰ See Exhibits NRC-008 (Application), at 11 and NRC-008(P) (Application), at 11.

⁴¹ Exhibit NRC-026(P) (RAI Response #3), at 39.

facilities.⁴² Applicants should also discuss the sources of funding for operating costs, the amount of funding that is committed, and the amount that is potentially available.⁴³ Applicants should also confirm committed sources and discuss conditions under which potential sources of funding would become committed and how the facility can be safely operated if some potential sources of funding are not realized.⁴⁴

Q.32. What did the Companies state were the sources of funds to cover the first five years of operating costs?

A.32. The Companies stated that Autoliv would contribute a total of [REDACTED] to cover the first year of costs which include [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] According to the Companies, the costs for the subsequent four years would be covered by revenue generated by the facility.⁴⁷

Q.33. How did the Companies state that they would generate revenue sufficient to cover the costs for the four years of operating the ARRR following the first prepaid year which is supposed to be devoted to resuming operations?

A.33. The Companies stated that they would generate revenue from commercial, research, and training activities.⁴⁸

Q.34. What information was provided to justify the revenue projections from commercial services?

⁴² Exhibit NRC-029 (NUREG-1537, Part 2), at 15-4.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ Exhibit NRC-022(P) (RAI Response #2), at 1, 3.

⁴⁶ *Id.*

⁴⁷ Exhibits NRC-026 (RAI Response #3), at 4-5 and NRC-026(P) (RAI Response #3), at 1-2.

⁴⁸ Exhibit NRC-018(P) (RAI Response #1), at 2-4; See Exhibits NRC-027 (SE), at 5-6 and NRC-027(P) (SE), at 5-6.

A.35. We read through this information, but did not consider the information as a confirmation of a funding commitment. According to the guidance in NUREG-1537,

51 *Id.*

applicants should confirm committed funding sources and discuss conditions under which potential funding sources would become committed and how the facility can be safely operated if some potential funding sources are not realized.⁵² [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Therefore, based on this minimal information, we could not determine whether the Companies' revenue projections were reasonable and based on plausible assumptions and forecasts. On the contrary, we determined that the uncertainties involved in the Companies' revenue projection were significantly greater than those usually involved in business outlooks. Thus, this attempt by the Companies to demonstrate that they had reasonable assurance of obtaining the funds necessary to cover costs was insufficient to satisfy the Commission's financial qualifications regulations.

Q.36. How did the Companies attempt to rectify the insufficiency of this showing?

A.36. The Companies subsequently provided [REDACTED] documents in the form of letters and emails, which they described as "customer letters of intent."⁵⁵

[REDACTED]

[REDACTED]

⁵² Exhibit NRC-029 (NUREG-1537, Part 2), at 15-4.

⁵³ Exhibit NRC-018(P) (RAI Response #1), at 2.

⁵⁴ See Exhibit NRC-018(P) (RAI Response #1), at 2-3.

⁵⁵ Exhibit NRC-026(P) (RAI Response #3), at 6-32.

[REDACTED]

[REDACTED]

[REDACTED]

Q.37. What is a letter of intent?

A.37. According to the Merriam-Webster dictionary, a letter of intent is “a written statement of the intention to enter into a formal agreement.”

Q.38. Is it Staff practice to assess letters of intent?

A.38. Yes, NUREG-1537 directs the Staff to evaluate and comment on the activities considered to be commercial activities at a non-power reactor.⁵⁸

Q.39. Did you consider the [REDACTED] documents provided by the Companies to be letters of intent, meaning that the author of the document intended to enter into a formal agreement, on either his own behalf or on behalf of the business with which he was associated with Aerotest?

A.39. No. None of the documents indicated an intention on the part of the author of that document to enter into a formal agreement. Thus, based on the language of the documents and the non-operational status of the reactor, we did not consider any of the documents to be letters of intent. Nevertheless, we evaluated them as a basis for potential future revenues from the various customers.

Q.40. How did you evaluate the letters submitted by the Companies with respect to potential future revenues from commercial activities at the ARRR?

A.40. First, we determined that [REDACTED] documents were received prior to the shutdown of the ARRR on October 15, 2010. We concluded that these documents were not applicable because they were predicated on a need for the ARRR's services at the time and the Companies have not demonstrated that the authors of these documents still need these

⁵⁶ Letter from Sandra Warren, General Manager of Aerotest Operations, Inc., Closure of Aerotest Operations (Aug. 6, 2012) [Exhibit NRC-040].

⁵⁷ Exhibit NRC-026(P) (RAI Response #3), at 6-32.

⁵⁸ Exhibit NRC-029 (NUREG-1537, Part 2), at 15-4.

services and have not found replacement services in the interim or desire to return as customers. Thus, these documents did not represent future customer commitments.

Next, we evaluated each of the remaining [REDACTED] documents submitted by the Companies and applied assumptions that were the most favorable to the Companies to develop a total revenue estimate for each potential customer. [REDACTED]

[REDACTED]

[REDACTED] Below is a summary of each document and the revenue estimate that we applied:

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

- [REDACTED]
[REDACTED]
- [REDACTED]
[REDACTED]
- [REDACTED] [REDACTED]
[REDACTED]
- [REDACTED]
[REDACTED]
[REDACTED]
- [REDACTED]

■ [REDACTED]
[REDACTED]

■ [REDACTED]
[REDACTED]

■ [REDACTED]

■ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] ■ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Q.41. How did you calculate the revenue from potential Aerotest customers based on the above information submitted by the Companies?

A.41. (JL) Because the Companies did not submit clear supporting documents to demonstrate their potential revenue from commercial services, I had to make several assumptions. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] The burden is on the applicant to justify its cost-and-revenue projections beyond simply listing those projections,⁶⁰ and these documents in no way explained the Companies' revenue projections. [REDACTED]

[REDACTED] Given these assumptions, this revenue calculation was highly speculative and supported by my own reasoning rather than any demonstration by the Companies since they provided no other information to justify their revenue projections. However, these assumptions allowed me to generate a numeric value that could be compared relatively to the O&M cost.

To generate this numeric value, I proceeded as follows. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁵⁹ Exhibits NRC-027 (SE), at 5 and NRC-027(P) (SE), at 5.

⁶⁰ *Power Authority of the State of New York and Entergy Nuclear Fitzpatrick LLC, Entergy Nuclear Indian Point 3, LLC, and Entergy Nuclear Operations, Inc.* (James A. FitzPatrick Nuclear Power Plant; Indian Point, Unit 3), CLI-01-14, 53 NRC 488, 517 (2001).

⁶¹ See Exhibit NRC-018(P) (RAI Response #1), at 4.

⁶² Exhibit NRC-027(P) (SE), at 6.

⁶³ *Id.*

[REDACTED]

[REDACTED]

Q.42. Why did you use Aerotest's 2009 revenue information to develop the projected revenue amounts [REDACTED]

A.42. (JL) The Companies only provided specific customer revenue information for 2009. Thus, I had no other information to use as a basis for a revenue projection.

Q.43. Did the Staff request more information from the Companies with respect to sources of funds?

A.43. Yes. We requested information regarding the sources of funds to cover O&M costs on three separate occasions.⁶⁵ In addition, we arranged a public meeting shortly after the issuances of the last RAI with the goal of ensuring that the Companies understood this RAI and understood that it is their responsibility as the applicants to demonstrate sufficient sources of funding in order to receive the NRC's approval of their indirect license transfer application.⁶⁶

Q.44. Why did you rely on only two previous Aerotest customers as sources of revenue?

A.44. [REDACTED]

[REDACTED]

Therefore, I used the historic revenue data submitted by the Companies to calculate the potential revenue from these two customers because this was the only information available.⁶⁸

Q.45. What information was provided regarding revenue from research activities?

⁶⁴ Exhibit NRC-027(P) (SE), at 6.

⁶⁵ See Exhibits NRC-017 (RAI #1); NRC-021 (RAI #2); NRC-021(P) (RAI #2); NRC-024 (RAI #3); NRC-024(P) (RAI #3).

⁶⁶ See Summary of December 19, 2012, Meeting with Aerotest Operations, Inc., and Nuclear Labyrinth, LLC, On the Request for Additional Information on the Proposed Indirect License Transfer Application of the Aerotest Radiography and Research Reactor (Jan. 18, 2013) [Exhibit NRC-025].

⁶⁷ Exhibit NRC-027(P) (SE), at 5.

⁶⁸ Exhibits NRC-027 (SE), at 5-6 and NRC-027(P) (SE), at 5-6.

A.45. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Following year two, the Companies estimated that research revenue would increase by 25 percent each year until the completion of year five at which point the growth rate would lower to three percent per year.⁷¹

Q.46. Was this sufficient information for the Staff to make a determination that the revenue from research was reasonable?

A.46. No. The Companies provided no evidence or documentation of specific grants or research funds but merely asserted that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Therefore, the Companies' research revenue projection was uncertain and the Staff did not have sufficient information on which to base a finding that this research revenue projection was reasonable.⁷³

Q.47. What information was provided regarding revenue from training?

A.47. The Companies stated that the projected income for training was [REDACTED]

[REDACTED]

[REDACTED]

⁶⁹ See Exhibit NRC-018(P) (RAI Response #1), at 3.

⁷⁰ See *id.* at 4.

⁷¹ Exhibits NRC-026 (RAI Response #3), at 5 and NRC-026(P) (RAI Response #3), at 2.

⁷² See Exhibit NRC-018(P) (RAI Response #1), at 3.

⁷³ Exhibits NRC-027 (SE), at 6 and NRC-027(P) (SE), at 6.

⁷⁴ Exhibit NRC-018(P) (RAI Response #1), at 3.

[REDACTED]

[REDACTED]

[REDACTED]

Q.48. Was this sufficient information for the Staff to make a determination that the revenue from training was reasonable?

A.48. Yes. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] we did not find this portion of the revenue projection to be unreasonable and used it as part of our calculation to determine the potential future revenue for the Companies.⁷⁷

Q.49. What was the total revenue estimate that you calculated based on all of the information provided by the Companies?

A.49. We determined that, in the event that Aerotest returns to full commercial operation and is able to generate all potential revenues listed in the above analysis, the total revenue would be approximately [REDACTED] per year. [REDACTED]

[REDACTED] It should be noted that this is not an estimate of what Aerotest *could* make in a year, but rather only a summation of all of the sources of revenue for which the Companies have provided. The Companies bear the burden of demonstrating that the projected revenue will cover the estimated costs. Based only on the information provided by the Companies, this was the most revenue that we could project with reasonable assurance.

Q.50. Was this revenue projection sufficient to cover the estimated costs for the ARRR?

⁷⁵ See Exhibit NRC-026(P) (RAI Response #3), at 40-42.

⁷⁶ See Exhibit NRC-018(P) (RAI Response #1), at 3.

⁷⁷ Exhibits NRC-027 (SE), at 6 and NRC-027(P) (SE), at 6.

A.50. No. Based on the Staff's evaluation, we determined that, in the event that Aerotest returns to full commercial operation and is able to generate all potential revenues listed in the above analysis, the total annual revenue would be approximately [REDACTED] which would still be significantly less than the lowest projected annual operating cost of [REDACTED].⁷⁸

Q.51. What additional information did you consider?

A.51. Because Aerotest did not have sufficient revenue to cover the operation costs for the period of the license, as discussed above, Nuclear Labyrinth, as the proposed parent company, could provide funds to cover those costs. Therefore, we analyzed the financial qualifications of Nuclear Labyrinth in order to determine whether it could provide such support and whether the proposed indirect license transfer to Nuclear Labyrinth would adversely affect the financial qualifications of Aerotest.⁷⁹ Specifically, we reviewed a pro forma financial statement submitted by Nuclear Labyrinth. [REDACTED]

[REDACTED]

[REDACTED]

We also considered contracts in assessing Nuclear Labyrinth's financial qualifications since contracts may provide supporting documentation for revenue and cost projections. Specifically, we considered that Autoliv and Nuclear Labyrinth have entered into a Funding Agreement whereby [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

⁷⁸ See Exhibit NRC-027(P) (SE), at 6.

⁷⁹ Exhibits NRC-027 (SE), at 7 and NRC-027(P) (SE), at 7.

⁸⁰ Exhibit NRC-022(P) (RAI Response #2), at 11.

⁸¹ See Exhibit NRC-027(P) (SE), at 8.

Q.52. What were the total sources of funds identified in the application to cover operating expenses?

A.52. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Q.53. Was this sufficient to cover the first five years of operating costs in accordance with 10 C.F.R. 50.33(f)?

A.53. No. The total sources of funds was insufficient to cover the first five years of operating costs. [REDACTED]

[REDACTED]

[REDACTED]

Q.54. What was the operational status of the ARRR at the time of your review?

A.54. The ARRR was shut down and had been voluntarily shut down since October 15, 2010. During our review, we received an NRC inspection report dated August 14, 2012 that

⁸² Exhibit NRC-022(P) (RAI Response #2), at 6.

⁸³ See *id.* at 11.

⁸⁴ See Exhibit NRC-027(P) (SE), at 8.

stated that 22 of the ARRR's 77 aluminum fuel elements had significant defects and therefore had to be removed from service.⁸⁵

Q.55. Did you consider the discovery of these fuel elements with significant defects in your financial qualifications review?

A.55. Yes. The discovery of these fuel elements with significant defects made us question the reasonableness of the Companies' cost-and-revenue projections. To resolve this concern, we asked the Companies how this discovery would affect the operating condition of the ARRR⁸⁶ as well as the Companies' cost-and-revenue projections.⁸⁷ We also asked the Companies to estimate the number of fuel elements that would need to be replaced in the future and the associated costs.⁸⁸ The Companies responded that the license transfer transaction would not close until the ARRR was fully operational and, therefore, that the current licensee would pay costs associated with the fuel.⁸⁹ The Companies also stated that they were evaluating the fuel situation but that this evaluation would not be completed until the end of March 2013.⁹⁰ Based on this explanation, the Companies did not change their cost-and-revenue projections in light of the discovery of the damaged fuel elements.

Q.56. How did the discovery of these fuel elements with significant defects and the Companies' responses to your requests for additional information regarding the fuel at the ARRR impact your review?

A.56. The Companies' response that it was evaluating the issue and that the ARRR would be fully operational before the license transfer did not sufficiently justify that the issue of

⁸⁵ See Letter from Gregory Bowman, NRC, to Sandra Warren, General Manager, Aerotest Operations, Inc., NRC Non-Routine Inspection Report No. 50-228/2012-204 (Aug. 14, 2012) [Exhibit NRC-032], at 5-6, 9-10.

⁸⁶ Exhibits NRC-021 (RAI #2), at 2; NRC-021(P) (RAI #2), at 2.

⁸⁷ Exhibits NRC-021 (RAI #2), at 3; NRC-021(P) (RAI #2), at 3.

⁸⁸ Exhibits NRC-024 (RAI #3), at 4-5 and NRC-024(P) (RAI #3), at 4-5.

⁸⁹ Exhibits NRC-022 (RAI Response #2), at 6, 8 and NRC-022(P) (RAI Response #2), at 2, 5.

⁹⁰ Exhibits NRC-026 (RAI Response #3), at 7 and NRC-026(P) (RAI Response #3), at 4.

costs associated with the fuel elements had been resolved because without the results of their evaluation, there was still a possibility that the ARRR could incur future costs related to replacement of aluminum fuel elements. The Companies account for fuel replacement costs via a “fuel credit” fee assessed against ARRR operations,⁹¹ but this cost is based on historical data and the Companies have not indicated whether this cost has been or would be reevaluated in light of the recent fuel element defects. Therefore, without more information regarding the Companies’ projections of fuel costs and its sources of funds to cover these costs, the Staff could not determine whether the Companies had “seriously considered the factors that will contribute to the expense of the project it is undertaking” as is required by the Commission’s case law.⁹² Consequently, the Staff denied the indirect license transfer application in part because the future operations of the ARRR are uncertain due to the status of the ARRR and its damaged fuel.⁹³

Q.57. Did you consider whether the ARRR will generate higher revenues in the future when it is operating?

A.57. No. The financial qualifications review is based on the current facts and circumstances and the Staff’s evaluation of the reasonableness of an applicant’s cost-and-revenue projections based on these facts and circumstances. The Staff cannot speculate about future revenue levels without a plausible basis provided by the applicant.

Staff’s Review of Funds for Annual Spent Fuel Storage

Q.58. Please explain your conclusions regarding the sufficiency of funds for spent fuel storage.

⁹¹ See Exhibits NRC-008 (Application), at 11 and NRC-008(P) (Application), at 11.

⁹² *Private Fuel Storage, L.L.C* (Independent Spent Fuel Storage Installation), CLI-04-27, 61 NRC 145, 155 (2004) (quoting *Louisiana Energy Services, L.P.* (Claiborne Enrichment Center), CLI-97-15, 46 NRC 294, 307 (1997)).

⁹³ See Exhibits NRC-027 (SE), at 14-15 and NRC-027(P) (SE), at 14-15.

A.58. Pursuant to 10 C.F.R. § 50.33(f)(5), the Commission may request additional or more detailed information regarding financial arrangements and the status of funds if the Commission considers this information appropriate. This may include information regarding a licensee's ability to continue the conduct of the activities authorized by the license and to decommission the facility. Nuclear Labyrinth is a newly-formed entity because it was organized for the primary purpose of operating the ARRR.⁹⁴ Because Nuclear Labyrinth has no financial or operating history, we reviewed additional or more detailed information respecting its financial arrangements and status of funds to assess its ability to conduct the activities authorized by the license and to decommission the facility.

In addition, the Companies indicated that if they were unable to obtain customers sufficient to cover operational costs and had exhausted committed funding, they would commence decommissioning of the ARRR.⁹⁵ Because the Companies proposed premature shutdown as a possible alternative in the event that sources of funding were not realized, the Staff evaluated the ability of the Companies to safely decommission, including the costs of spent fuel storage. Specifically, the Staff requested that the Companies provide "itemized estimated annual fuel storage costs, including but not limited to health physicists, security, overhead cost, insurance, etc., until 2055 and information to demonstrate Nuclear Labyrinth's financial ability to provide funding for fuel storage."⁹⁶

Q.59. When does the DOE assume responsibility for spent fuel storage?

A.59. In the Companies' decommissioning plan, the current projection is that spent fuel would be removed from the site sometime after 2055.⁹⁷ Therefore, the Staff evaluated whether

⁹⁴ Exhibits NRC-018 (RAI Response #1), at 6 and NRC-018(P) (RAI Response #1), at 5.

⁹⁵ Exhibits NRC-022 (RAI Response #2), at 7-8 and NRC-022(P) (RAI Response #2), at 4.

⁹⁶ Exhibits NRC-024 (RAI #3), at 4 and NRC-024(P) (RAI #3), at 4.

⁹⁷ Exhibits NRC-008 (Application), at 60 and NRC-008(P) (Application), at 60.

the Companies could cover the costs of spent fuel storage in the event of a premature shutdown through 2055.

Q.60. Does Autoliv's commitment to provide funding for decommissioning cover spent fuel storage?

A.60. No. Autoliv's funding commitment only covers costs related to radiological decommissioning based on the decommissioning plan prepared by Energy Solutions dated Nov. 17, 2011.

Q.61. Why is spent fuel storage a concern for the staff?

A.61. Licensees are responsible for the safe storage of spent fuel. Costs to provide for safe storage of spent fuel include health physics, security, overhead, and insurance expenses. Inadequate funding could lead to increased risks to public health and safety, security and the environment.

Q.62. How did the Companies indicate that they would provide adequate funding for spent fuel storage?

A.62. The Companies stated that they would rely on funds collected during the life of the license to assure that sufficient funds would be available to cover the costs of spent fuel storage from 2035 to fuel acceptance by the DOE in 2055.⁹⁸ Specifically, the Application stated that, when decommissioning is commenced, the ARRR may need to be in SAFSTOR until the DOE accepts the fuel.⁹⁹

The Application included sources of funds for spent fuel management, transportation, and disposal. The following is a summary of costs associated with spent fuel:

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

⁹⁸ Exhibits NRC-026 (RAI Response #3), at 6 and NRC-026(P) (RAI Response #3), at 3.

⁹⁹ Exhibits NRC-008 (Application), at 12 and NRC-008(P) (Application), at 12.

¹⁰⁰ Exhibit NRC-022(P) (RAI Response #2), at 4.

<u>Annual cost for fuel storage:</u>	
FTE (Labor)	\$30,000
Maintenance and supply	\$15,000
Training	\$5,000
NRC fees	\$50,000
Total annual cost	\$100,000 ¹⁰¹

[REDACTED] The Companies indicated that the annual cost associated with the fuel storage are \$100,000 and will be covered by fees assessed for Aerotest services, and that the cost is included in the total operation expense in the projected income statement for Aerotest.¹⁰³

Q.63. What was your conclusion regarding the Companies' plans for providing adequate funds for spent fuel storage?

A.63. The Staff could not determine that there would be sufficient funds to cover the annual cost of fuel storage until the DOE accepts the fuel, which is expected to occur in 2055 or later. Assuming 42 years of fuel storage, based on a premature shutdown in 2013, with an annual cost of \$100,000, this would cost a total of \$4.2 million. Therefore, if the Companies were unable to obtain sufficient revenue and exhausted their committed operational funds at the end of year one, then simply decommissioning would not address all of their liabilities because the Companies would still be liable for an additional \$4.2 million in spent fuel storage costs until 2055 and would not have accumulated sufficient funding to cover these costs. Thus, we could not determine that there would be sufficient funds to cover the annual cost of fuel storage until the DOE accepts the fuel in 2055.¹⁰⁴

Because the Staff determined that the Companies did not provide reasonable assurance of an adequate source of funds to cover operational expenses, the Staff likewise determined

¹⁰¹ Exhibit NRC-026(P) (RAI Response #3), at 3.

¹⁰² *Id.* at 114-121.

¹⁰³ *Id.* at 3.

¹⁰⁴ Exhibits NRC-027 (SE), at 11 and NRC-027(P) (SE), at 11.

that the Companies' plan to provide funds for spent fuel storage were infeasible if the ARRR is shutdown prematurely.¹⁰⁵

Q.64. Based on your overall review, what was the staff's conclusion regarding the transfer?

A.64. After evaluating all of the information provided by the Companies in their Application and RAI responses, the Staff, based on the uncertainty of the facility's current and future operations, uncertainty about the revenue projections, and the Companies' inadequate demonstration of sources of funds for operations and for spent fuel storage, concluded that the Companies have failed to demonstrate sufficient financial qualifications in accordance with 10 C.F.R. § 50.33(f).¹⁰⁶ Therefore, the Staff denied the Companies' indirect license transfer application.¹⁰⁷

¹⁰⁵ Exhibits NRC-027 (SE), at 11 and NRC-027(P) (SE), at 11.

¹⁰⁶ Exhibits NRC-027 (SE), at 14-15 and NRC-027(P) (SE), at 14-15.

¹⁰⁷ Letter from Eric J. Leeds, Director, NRR, NRC, to Michael Anderson, President, Aerotest Operations, Inc., Denial of License Renewal, Denial of License Transfer, and Issuance of Order to Modify License No. R-98 to Prohibit Operation of the Aerotest Radiography and Research Reactor, Facility Operating License No. R-98 (July 24, 2013) [Exhibit NRC-028].

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
AEROTEST OPERATIONS, INC.)	Docket No. 50-228-LT
)	
(Aerotest Radiography and Research Reactor))	
)	

AFFIDAVIT OF JOCELYN LIAN
REGARDING DENIAL OF THE INDIRECT LICENSE TRANSFER
OF THE AEROTEST RADIOGRAPHY AND RESEARCH REACTOR

I, Jocelyn Lian, do hereby declare under penalty of perjury that my statements in the foregoing testimony and my statement of professional qualifications are true and correct to the best of my knowledge and belief.

Executed in Accordance with 10 C.F.R. § 2.304(d)

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Executed in Rockville, Maryland
this 13th day of June, 2013

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE PRESIDING OFFICER
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
AEROTEST OPERATIONS, INC.)	Docket No. 50-228-LT
)	
(Aerotest Radiography and Research Reactor))	
)	

AFFIDAVIT OF ANNELIESE SIMMONS
REGARDING DENIAL OF THE INDIRECT LICENSE TRANSFER
OF THE AEROTEST RADIOGRAPHY AND RESEARCH REACTOR

I, Anneliese Simmons, do hereby declare under penalty of perjury that my statements in the foregoing testimony and my statement of professional qualifications are true and correct to the best of my knowledge and belief.

Executed in Accordance with 10 C.F.R. § 2.304(d)

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Executed in Rockville, Maryland
this 13th day of June, 2013