

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
Aerotest Operations, Inc.	)	Docket No. 50-228-LT
	)	
Aerotest Radiography and Research Reactor	)	ASLBP No. 14-931-01-LT-BD01

**UNOPPOSED MOTION TO FILE A REDACTED, PUBLICLY AVAILABLE  
TRANSCRIPT FROM AUGUST 12, 2014 HEARING**

On August 12, 2014, a hearing was held in the above-captioned matter and a hearing transcript was issued for review on August 13, 2014.<sup>1</sup> As directed by the Presiding Officer, Aerotest Operations, Inc. and Nuclear Labyrinth, LLC (the “Companies”) reviewed the transcripts and have identified the Companies’ confidential business information that should be withheld from public disclosure under 10 C.F.R. § 2.390.<sup>2</sup> Attached to this motion is the proposed redacted transcript. Counsel for the Companies certify that the redactions are limited to information that is exempt from disclosure pursuant to 10 C.F.R. § 2.390.

I hereby certify that I have consulted with the NRC Staff counsel on the proposed redacted transcript and NRC Staff counsel stated that they do not object to the redactions.

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<sup>1</sup> Aerotest Operations, Inc. (Aerotest Radiography and Research Reactor) Official Transcript of Proceedings (August 12, 2014).

<sup>2</sup> Email from Kathleen Schroeder, Law Clerk, Atomic Safety and Licensing Board, re: Aerotest Proposed Transcript Corrections and Redacted Transcript (Aug. 18, 2014).

Respectfully Submitted

/signed electronically by/

Jay E. Silberg  
Kimberly A. Harshaw

Counsel for  
Aerotest Operations, Inc. and Nuclear  
Labyrinth, LLC

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

In the Matter of	)	
	)	Docket No. 50-228-LT
Aerotest Operations, Inc.	)	License No. R-98
	)	
(Aerotest Radiography and	)	
Research Reactor)	)	

**CERTIFICATE OF SERVICE**

I hereby certify that the foregoing “Unopposed Motion to File a Redacted, Publicly Available Transcript from August 12, 2014 Hearing” has been served through the E-Filing system on the participants in the above-captioned proceeding this 26th day of August 2014.

/Signed electronically by/

\_\_\_\_\_  
Kimberly A. Harshaw

**Official Transcript of Proceedings**  
**NUCLEAR REGULATORY COMMISSION**  
**PROPRIETARY INFORMATION**

Title: Aerotest Operations, Inc.  
Aerotest Radiography and Research Reactor

Docket Number: 50-228-LT

ASLBP Number: 14-931-01-LT-BD01

Location: Rockville, Maryland

Date: Tuesday, August 12, 2014

Work Order No.: NRC-983

Pages 36-223

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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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ATOMIC SAFETY AND LICENSING BOARD

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HEARING

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In the Matter of: : Docket No.  
AEROTEST OPERATIONS, INC. : 50-228-LT  
: ASLBP No.  
(Aerotest Radiography and : 14-931-01-LT-BD01  
Research Reactor) :

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Tuesday, August 12, 2014

Nuclear Regulatory Commission  
Hearing Room T-3 B45  
11545 Rockville Pike  
Rockville, Maryland

BEFORE:

E. ROY HAWKENS Presiding Officer

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P R O C E E D I N G S

9:59 a.m.

JUDGE HAWKENS: We're on the record now.  
Good morning. My name is Roy Hawkens. I'm the  
Presiding Officer in this case entitled Aerotest  
Operations, Incorporated; Aerotest Radiography and  
Research Reactor, docket number 50-228-LT.

Would counsel please introduce themselves  
starting with the applicants?

MS. HARSHAW: Good morning. I'm Kimberly  
Harshaw, Pillsbury Law.

JUDGE HAWKENS: Good morning.

MR. SILBERG: Jay Silberg, also with  
Pillsbury.

JUDGE HAWKENS: Good morning, sir. The NRC  
Staff?

MS. GHOSH: Good morning. My name is Anita  
Ghosh. I'm with the NRC Staff.

MS. UTTAL: Susan Uttal, NRC Staff.

MS. KANATAS: Catherine Kanatas, NRC Staff.

JUDGE HAWKENS: Thank you. Good morning.

We're here today in response to the  
Commission's order in CLI-14-05 that directed the  
Licensing Board to compile a hearing record in this  
case, preside at the hearing, and certify the record



1 to the Commission.

2 The Applicants, Aerotest Operations,  
3 Incorporated and Nuclear Labyrinth, LLC, which I'll  
4 hereafter refer to as the Companies challenge the  
5 Staff's denial of their license transfer application  
6 which the Staff denied on the ground that the  
7 Companies failed to satisfy the financial  
8 qualification requirements, in particular, the Staff  
9 found the Companies failed to show an ability to pay  
10 operating costs or the annual cost for spent fuel  
11 storage.

12 This proceeding will be conducted in  
13 accordance with Subpart M of 10 CFR Part 2, and it  
14 will be closed to the public because of the likelihood  
15 that proprietary information will be extensively  
16 discussed.

17 At the outset I'll review the itinerary  
18 for today, which is also summarized in the Board's  
19 July 25th order. First, in accordance with the  
20 parties' agreements we'll admit all pre-filed exhibits  
21 enback by reference to the exhibit lists which the  
22 court reporter will then bind into the transcript.

23 Second, we'll hear opening statements by  
24 counsel, first by the Companies, and second by counsel  
25 for the NRC Staff. Third, the Company witnesses will

1 be examined followed by an examination of the Staff  
2 witnesses. And, finally, we'll have closing statements  
3 by the NRC Staff, followed by a closing statement by  
4 the Companies.

5 Counsel will have the opportunity to  
6 provide a list of suggested questions for me to  
7 consider posing to their witness. At the time they  
8 have them ready they can provide them to the Board's  
9 law clerk, Ms. Kathy Schroeder, and would ask that  
10 they be legible because what you give her will  
11 ultimately be put into the hearing docket for this  
12 case.

13 And, finally, if at any time during the  
14 proceeding counsel or their witnesses would like to  
15 take a break, please let me know and I will happily  
16 accommodate that. That goes for the court reporter, as  
17 well.

18 Any questions at this point by counsel,  
19 any administrative or procedural matters?

20 MR. SILBERG: None from the Applicants.

21 MS. GHOSH: None for the Staff.

22 JUDGE HAWKENS: Thank you. The first order  
23 of business will be admitted into evidence the pre-  
24 filed exhibits on the exhibit list the parties  
25 submitted to the electronic hearing docket.

1 First for the Companies, at the top of  
2 your pre-filed exhibit list is the case name and  
3 docket numbers, followed by the title Aerotest and  
4 Nuclear Labyrinth Revised Hearing Exhibits, which was  
5 submitted July 18, 2014, and is identified as Exhibit  
6 AOI000R. Is the exhibit list I just described an  
7 accurate and complete list of the exhibits counsel for  
8 the Companies request to admit into evidence?

9 MS. HARSHAW: Yes, Your Honor.

10 JUDGE HAWKENS: Does counsel for the Staff  
11 object to admitting the pre-filed exhibits on the  
12 Companies' exhibit list into evidence?

13 MS. GHOSH: No, Your Honor.

14 JUDGE HAWKENS: The exhibits on the list  
15 are admitted into evidence and the court reporter is  
16 instructed to bind the exhibit list into the  
17 transcript. And I note that a number of the exhibits  
18 do contain proprietary information, and that fact is  
19 indicated in the exhibit description on the list.

20 For the NRC Staff at the top of your pre-  
21 filed exhibit list is the case name and docket  
22 numbers, followed by the title NRC Staff Hearing  
23 Exhibits Revised July 18, 2014, and submitted July 18,  
24 2014. Is the list I just described an accurate and  
25 complete list of the exhibits the Staff requests to

1 admit into evidence?

2 MS. GHOSH: Yes, Your Honor.

3 JUDGE HAWKENS: Do counsel for the  
4 Companies have any objections to those being admitted  
5 into evidence?

6 MS. HARSHAW: No, Your Honor.

7 JUDGE HAWKENS: The exhibits on the list  
8 are admitted into evidence. The court reporter is  
9 instructed to bind the exhibit list into the  
10 transcript and like the Company exhibits, a number of  
11 these exhibits contain proprietary information and  
12 that fact is indicated both in the NRC exhibit number  
13 and in the description.

14 Let's proceed to opening statements. We'll  
15 be starting with the Companies. I'd like to hear from  
16 you from the podium, please. Each side for their  
17 opening statements will have 10 minutes exclusive of  
18 questions, and to assist you in keeping track of time  
19 Ms. Schroeder will raise the amber -- at the end  
20 she'll raise the 10-minute, the red light, and at the  
21 two minute warning she'll raise the amber sign  
22 indicating you have two minutes left. We'll now hear  
23 from the Companies.

24 MS. HARSHAW: Good morning, Your Honor.

25 This case is about an existing company,

1 Aerotest Operations, that have been providing critical  
2 services to DOD and NASA suppliers for over 40 years  
3 until the NRC compelled its shutdown in 2010. In  
4 particular, this case is about the NRC's denial of the  
5 indirect transfer of the operating license of the  
6 Aerotest Research and Radiography Reactor to Nuclear  
7 Labyrinth.

8           There are two areas of controversy in this  
9 case. First is whether Aerotest and Nuclear Labyrinth  
10 will have sufficient funding to conduct activities  
11 following the license transfer. Second is whether the  
12 companies will have sufficient funds to cover the  
13 annual cost of spent fuel storage following the  
14 license transfer.

15           What is required for financial  
16 qualifications? 10 CFR 50.33(f) requires for an  
17 operating license that the Applicants submit  
18 information that demonstrates that they have  
19 reasonable assurance of obtaining the funds necessary  
20 to cover operating costs. They do so by submitting a  
21 five-year projection of costs and identifying the  
22 source of funds to cover those costs.

23           Furthermore, NRC guidance states that they  
24 should provide a reliable basis for the operating  
25 costs, such as past operating costs, and that they

1 should identify the source of the funding, the amount  
2 that's committed, the amount that's potentially  
3 committed, and the conditions under which the  
4 potentially committed funds could become committed.

5 And what is reasonable assurance? Well it  
6 is not absolute certainty. The Commission has said  
7 that it is enough for Applicants to rely on plausible  
8 assumptions and forecasts. Furthermore, the Commission  
9 has said that in the context of financial  
10 qualifications reasonable assurance is less than the  
11 extremely high assurance that the Commission requires  
12 for safety.

13 What is required for spent fuel  
14 management? For a research reactor there's no specific  
15 requirement for the licensee to have a spent fuel  
16 management fund. For a power reactor there is such a  
17 requirement at 10 CFR 50.54(bb). But even in that  
18 case, this funding is not required to be submitted,  
19 this mechanism is not required to be submitted to the  
20 NRC until close to the time that the reactor has gone  
21 to shutdown. This provision does not apply to a  
22 research reactor.

23 Throughout this process, the NRC Staff has  
24 taken the most pessimistic view of the information  
25 submitted by the Companies. In every instance where

1 the Staff identified an uncertainty, they assumed an  
2 unfavorable outcome, and this is inconsistent with an  
3 appropriate application of the reasonable assurance  
4 standard.

5 Furthermore, the Staff has asserted the  
6 information the Companies should not be considered.  
7 However, each time the Companies have submitted  
8 information, the Staff has raised new questions and  
9 objections, including in its Safety Evaluation Report  
10 its response to areas of controversy, and the  
11 testimony; and, yet, they object to Aerotest  
12 responding to these new objections. The Companies have  
13 been dealing with a moving target.

14 Now, what did the Companies submit? The  
15 Companies submitted cost and revenue projections that  
16 were based on plausible assumptions and forecasts. The  
17 Companies reviewed the regulations, they reviewed  
18 guidance, and their reviewed their past submittal in  
19 the x-ray application, including the RAIs to make sure  
20 they submitted information required to meet the  
21 regulations.

22 The submitted cost and revenue projections  
23 for the first five years of operations that were based  
24 on Dr. Slaughter's extensive due diligence, his market  
25 analysis, and the historical costs and revenue of the

1 facility. They identified that the source of funds to  
2 cover these costs was for the first year Autoliv would  
3 provide cash to cover restarting the facility, and the  
4 return of customers. And for subsequent years they  
5 would rely on revenues for customers.

6 They relied on a plausible assumption that

7 [REDACTED]

8 [REDACTED] Like in

9 the x-ray application, the Companies did not submit  
10 contracts or letters of intent.

11 The Staff found the application  
12 insufficient and repeatedly requested committed  
13 sources of funds. The Companies explained that it was  
14 not practical to obtain such commitment, but they  
15 stated that they were confident customers would return

16 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

22 Furthermore, prior to its shutdown,  
23 Aerotest had been providing services to customers for  
24 decades. [REDACTED]

[REDACTED]



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[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

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

[REDACTED]

[REDACTED]

[REDACTED] And the

Staff's insistence on committed sources of funds in these circumstances put the Companies in a classic catch-22.

The Staff unreasonably and arbitrarily rejected the Companies' projects. They rejected nine years of historical data that was submitted, and they relied on only two of the communications that the Companies submitted that showed interest of the 26 communications. There is no indication that they would have been willing to rely on anything other than a contract or a letter of intent.

In fact, they specifically state, "Without more communications like the two provided, the Staff cannot conclude that the Companies' historic customers will return and, thus, that the Companies' revenue projections are reasonable."

The Companies' revenue projections were supported by reasonable analyses of the fuel

1 inventory. The Staff questioned whether there would be  
2 operational limitations on the reactor as a result of  
3 the damaged aluminum fuel that was found, and how  
4 would these limitations affect the revenue  
5 projections? The Companies said, number one, the  
6 transaction would not close if the ARRR was not fully  
7 operational. And, number two, they were performing  
8 reviews and analyses of the fuel, and they did not  
9 expect to need any new fuel.

10           During that time, Dr. Slaughter performed  
11 careful review of every fuel element to determine its  
12 suitability for use. He studied the historical  
13 placement and environment of the fuel. He developed a  
14 computer model that projected that, indeed, the core  
15 would be operational not only at the level required to  
16 provide the services but at full license power level.  
17 He also performed burnup calculations. The Staff knew  
18 these analyses were ongoing and never requested this  
19 information, and they didn't perform any analyses of  
20 its own. And now they newly claim that it cannot  
21 approve the license transfer based on the damaged  
22 aluminum fuel.

23           The Companies developed a reasonable plan  
24 for spent fuel management based on plausible  
25 assumptions and forecasts. Initially, the Companies

1 did not submit this information because, as I said,  
2 there's no specific requirement to have such a fund.  
3 And, second, they didn't have to submit this  
4 information in the x-ray application. Although there  
5 is no requirement for a research reactor to have a  
6 spent fuel management fund, the NRC requests in an RAI  
7 that the Companies submit such a plan. So, the  
8 Companies submitted their plan which included  
9 collecting fees over the life of the reactor, placing  
10 those fees in a trust fund, and also [REDACTED] [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED].

14 The Companies reasonably relied on the  
15 reactor operating for its extended license to collect  
16 these funds. There was going to be minimal costs  
17 associated with providing spent fuel management, and  
18 they would be relying on resources already on site to  
19 do the tasks required to manage the fuel.

20 Furthermore, the Companies noted in its  
21 initial statement of position that since it submitted  
22 its application, the DOE has changed its strategy  
23 regarding spent fuel management. The DOE's current  
24 strategy provides for interim storage beginning in  
25 2021 for shutdown plants. And, thus, even if the

1 reactor shut down prematurely, there would be minimal  
2 time required for spent fuel management.

3 Consistent with its position throughout  
4 this proceeding, the Staff took the most pessimistic  
5 view on spent fuel management, and assumed a worst  
6 case scenario, and demanded that the Company provide  
7 funds to address the scenario. The Staff presumed that  
8 the reactor would never start and the Companies would  
9 have to provide funding for 42 years.

10 In sum, throughout this proceeding the  
11 Staff has taken the most unfavorable position possible  
12 in every respect of this application. This position is  
13 not called for given the totality of the information  
14 the Companies have submitted.

15 The Companies relied on [REDACTED]  
16 [REDACTED], the long history of this  
17 company providing services, Dr. Slaughter's extensive  
18 experience in this field, [REDACTED]  
19 [REDACTED], and the  
20 time in which they could provide them. Thank you.

21 JUDGE HAWKENS: Thank you. Before you sit,  
22 I didn't want to interrupt with questions during your  
23 opening statement, but I have a few for you.

24 Based on your opening statement and  
25 material in your pleading you said a number of times,

1 The Staff -- there was material and the Staff -- in  
2 the record and the Staff would have liked to see, but  
3 the Companies didn't provide it because the Staff  
4 didn't request it, or the Companies were unaware it  
5 was necessary in order to meet the financial  
6 qualification standard.

7 In the Safety Evaluation Report it says  
8 and I quote, "The purpose of the public meeting on  
9 December 19th, 2012 was to insure the Applicants  
10 understood the financial assurance requirements for  
11 license transfer approval." It sounds like there was  
12 not a meeting of the minds on what was required after  
13 that meeting. Why is that?

14 MS. HARSHAW: At that meeting we didn't  
15 discuss every piece of information that the Staff  
16 ultimately decided the application on. They did in  
17 that meeting discuss that they would like to see more  
18 letters of intent, and that is why we submitted the  
19 customer communications. We didn't -- we've told them  
20 all along that we didn't -- it would impractical to  
21 obtain letters of intent. We told them we would  
22 provide what we could provide.

23 JUDGE HAWKENS: You are fully aware,  
24 though, the burden was on the Companies to satisfy the  
25 regulatory standard for financial qualifications.

1 MS. HARSHAW: We are, and we believe that  
2 the totality of the information that we have submitted  
3 meets that burden.

4 JUDGE HAWKENS: All right. Let me move  
5 questions to allegedly new evidence in the record. In  
6 your concluding statement of position you say that the  
7 Staff's objection to information that was not included  
8 in the application or the RAI responses is incorrect  
9 as a matter of law, and as a matter of reasonable  
10 process.

11 Now on page 7 of your statement of areas  
12 of controversy, you said the Companies, "submit that  
13 upon license transfer as described in the application  
14 and the Companies' responses to the NRC Staff's RAIs,  
15 there will be sufficient funding to conduct activities  
16 authorized by the license." That certainly suggests  
17 that you were relying exclusively on material you  
18 submitted to the Staff when they were considering the  
19 application.

20 MS. HARSHAW: Generally, when you submit an  
21 application to the Staff, it's a summary of the  
22 information that you rely on. You don't necessarily  
23 submit every single piece of paper, calculation. You  
24 summarize your basis in the application, and that's  
25 what we did in this case. Now we've provided

1 additional explanation for information in our  
2 testimony.

3 JUDGE HAWKENS: When the Commission  
4 referred this case to the ASLBP it said that the case  
5 focuses on "whether the Staff appropriately  
6 interpreted our regulations and applied them correctly  
7 to the undisputed facts common to the two  
8 proceedings." And this Board guided by the  
9 Commission's order, and also guided by the Companies'  
10 statement of areas of controversy said on page 2 of  
11 its May 22nd order that this adjudication, "will focus  
12 on whether the Staff appropriately interpreted the  
13 regulations and applied them correctly to the record  
14 facts." Does that suggest to you that we should just  
15 consider facts that were submitted to the Staff at the  
16 time the application was considered? And, if not, why  
17 not?

18 MS. HARSHAW: Your Honor, I interpret that  
19 to be the Commission is going to make a decision on  
20 the record facts that we develop during this hearing.  
21 If you intended that it be the information submitted  
22 on the docket by January 23rd when we submitted our  
23 last piece of information, I would have expected the  
24 Commission's order to say information on January 23rd  
25 that was submitted by the Applicants. And I interpret

1 the Commission's decision to talk about the facts  
2 common to -- when they're talking about the facts  
3 common to the two proceedings, they're talking about  
4 the foreign ownership issues. The facts that we're  
5 talking about here are not common to the two  
6 proceedings.

7 JUDGE HAWKENS: Can you conceive of a case  
8 where there's so much new material information  
9 submitted at the adjudicative level where it would  
10 make good sense to simply remand the NRC Staff  
11 directing them to consider an application -- a new de  
12 novo in light of the new evidence?

13 MS. HARSHAW: I'm not familiar with a case  
14 like that. I certainly think that if the Staff wants  
15 to review a particular condition on a particular piece  
16 of information, such as the model, that they can have  
17 a license condition that says we want to review your  
18 model. I don't believe that in this case it's  
19 warranted because that information is -- we have a  
20 commitment that we're not going to start the reactor  
21 unless it's operational, so I don't see that it's  
22 warranted to remand the --

23 JUDGE HAWKENS: In your rebuttal statement  
24 you take the position the NRC Staff acted improperly  
25 in submitting new information in the hearing in the



1 form of new challenges to the Companies' application.  
2 It seems a little bit to me that's the pot calling the  
3 kettle black.

4 MS. HARSHAW: The Staff did not in the SER  
5 state that they were denying the application on the  
6 basis of there not being enough fuel, or us having to  
7 purchase new fuel. We told them we didn't believe we  
8 had to purchase new fuel. We told them we weren't  
9 going to go through with the transaction if we needed  
10 new fuel, so it was reasonable for us to rely on the  
11 fact that we believed the Staff was accepting our  
12 commitment that we weren't going to go through with  
13 the transaction where the reactor was not operational.

14 JUDGE HAWKENS: But if new information came  
15 to light where it was conclusive that you could not  
16 start up and become operational, wouldn't it be  
17 appropriate for the Staff to submit that into the  
18 record so the Commission could make a final decision  
19 based on all the information?

20 MS. HARSHAW: Likely, if we had concluded  
21 that, we would have notified the Staff that we're  
22 withdrawing our application, because we would not go  
23 through with the transactions. It's in neither side's  
24 interest, neither Nuclear Labyrinth or Aerotest to go  
25 through with a transaction where the reactor is not

1 operational.

2 JUDGE HAWKENS: So, I understand your  
3 answer to my question was yes?

4 MS. HARSHAW: Yes.

5 JUDGE HAWKENS: Okay. In your briefs you  
6 chided the Staff several times for not suggesting  
7 license conditions. I was wondering if a company has  
8 ever suggested licensing conditions?

9 MS. HARSHAW: We did not suggest license  
10 conditions, but we did suggest providing certain  
11 information that would have been amenable to a license  
12 condition.

13 JUDGE HAWKENS: And what were those  
14 suggestions?

15 MS. HARSHAW: Well, first, that we wouldn't  
16 start the reactor -- we wouldn't go through with the  
17 transfer if the facility was not operational. We've  
18 also provided information on we would provide a  
19 schedule for getting purchase orders or funding, that  
20 sort of thing.

21 JUDGE HAWKENS: In retrospect, do you think  
22 it would have been -- you would have better advised to  
23 have explicitly suggested those licensing conditions?

24 MS. HARSHAW: It would have been helpful if  
25 both sides had been discussing licensing conditions.

1 JUDGE HAWKENS: I take that a yes, also.

2 MS. HARSHAW: Yes.

3 JUDGE HAWKENS: All right. That's all I  
4 have. Thank you.

5 MS. HARSHAW: Thank you.

6 JUDGE HAWKENS: I'd like to hear now from  
7 the Staff.

8 MS. GHOSH: Good morning, Your Honor.

9 JUDGE HAWKENS: Good morning.

10 MS. GHOSH: My name is Anita Ghosh, and I  
11 represent the NRC Staff. The purpose of this  
12 proceeding has been clearly explained by both you and  
13 the Commission. The purpose is to determine whether  
14 the Staff appropriately interpreted the Commission's  
15 regulations, and applied them correctly to the record  
16 facts in its denial of the Companies' license transfer  
17 application.

18 As set forth by your May 2014 order, there  
19 are two litigable areas of controversy in this  
20 proceeding. First, whether the Staff correctly  
21 concluded that the Companies failed to demonstrate  
22 that they have, or with reasonable assurance will have  
23 sufficient funding to conduct activities authorized by  
24 the license if the license is indirectly transferred.  
25 And, second, whether the Staff correctly concluded

1 that the Companies failed to demonstrate that there  
2 will be sufficient funds to cover the annual cost of  
3 spent fuel storage until the Department of Energy  
4 accepts the spent fuel. Therefore, at issue here are  
5 the legal and factual conclusions stated by the Staff  
6 expressly or by a logical inference for denying the  
7 application and the reasons relied on by the Staff in  
8 support of those conclusions.

9           The appropriateness of the Staff's denial  
10 is determined based on the information that the  
11 Companies provided at the time of the denial. In their  
12 initial rebuttal, statements of position, and  
13 testimony the Companies introduced new information  
14 that was not submitted when the Staff denied the  
15 license transfer application on July 24th, 2013. This  
16 new information is essentially a supplement to the  
17 denied application and should not be considered in  
18 this proceeding because it was neither submitted to  
19 the Staff, nor relied on by the Staff in making its  
20 legal and factual conclusions in denying the  
21 Companies' application.

22           As the Staff's witnesses have testified  
23 and will discuss in further detail today, the Staff  
24 reviewed the Companies' application, asked three sets  
25 of Requests for Additional Information, and held a

1 public meeting to insure that the Companies understood  
2 the financial qualifications requirements for approval  
3 of their application. However, in evaluating the  
4 Companies' application, the Staff determined that the  
5 Companies did not meet the financial qualifications  
6 requirements.

7 The fundamental purpose of the  
8 Commission's financial qualifications requirement is  
9 the protection of public health and safety, and the  
10 common defense and security. The Staff's legal  
11 pleadings misstated a portion of the LES case in  
12 stating that "an Applicant must demonstrate that it is  
13 extremely unlikely that there will be under-funding  
14 that will lead to a health, safety, or common defense  
15 or security risk. To clarify, this is not the  
16 Applicant's burden, and the Staff in its review did  
17 not require the Companies to demonstrate this in their  
18 license transfer application."

19 Instead, the Staff reviewed the Companies'  
20 application in accordance with the Commission's Part  
21 50 financial qualifications requirements and the  
22 applicable guidance in NUREG-1537. Under 10 CFR  
23 Section 50.33(f)(2), Applicants must submit  
24 information that demonstrates that the Applicant  
25 possesses or has reasonable assurance of obtaining the

1 funds necessary to cover estimated operation costs for  
2 the period of the license.

3 Further, Applicants must submit estimates  
4 for total annual operating costs for each of the first  
5 five years of operation of the facility and sources of  
6 funds to cover these costs.

7 The Commission has stated that simply the  
8 submission of five-year costs and revenue projections  
9 is not sufficient. Whether these projections are  
10 reasonable is always under question under Section  
11 50.33(f)(2). Reasonable level of projections must be  
12 based on plausible assumptions and forecasts, and not  
13 rely on assumptions seriously at odds with governing  
14 realities or involve relevant uncertainties  
15 significantly greater than those that usually cloud  
16 business outlooks.

17 The Commission may also request additional  
18 and more detailed financial information regarding the  
19 Applicant's ability to continue to conduct the  
20 activities authorized by the license. This authority  
21 to request additional financial information applies  
22 with even greater force to Applicants that are newly  
23 formed entities, such as Nuclear Labyrinth.

24 In contrast to other license transfer  
25 applications, the Companies' application was unique in

1 that it involved a newly formed entity, a shutdown  
2 reactor, uncertainty regarding whether prior customers  
3 would return, uncertainty regarding operability of the  
4 reactor in light of damaged fuel, and insufficient  
5 funds to cover annual spent fuel storage costs until  
6 2055.

7 Based on these facts, the Staff could not  
8 conclude that the Companies demonstrated that they  
9 possessed or have reasonable assurance of obtaining  
10 the funds necessary to cover estimated operation costs  
11 for the period of the license. Therefore, the Staff  
12 acted reasonably in denying the Companies' license  
13 transfer application.

14 Contrary to the Companies' assertions, the  
15 Staff requested and considered both committed and  
16 potential sources of funds. The Companies argue that  
17 their historical revenue data was reasonable, and that  
18 the Staff completely disregarded this information.  
19 While the Staff did consider historical data, it also  
20 considered Aerotest's more recent performance  
21 information which indicated uncertainty regarding  
22 whether previous customers would, in fact, return.

23 For example, the Companies only provided  
24 written statements from two customers to support their  
25 assertion that previous customers were interested in

1 returning even after the reactor was shutdown in 2010.

2 The application also indicated uncertainty  
3 about when and if the facility would resume operations  
4 in light of recently discovered damaged fuel. Given  
5 these uncertainties, the Staff determined that relying  
6 on historical data alone as a basis for future revenue  
7 projections was not reasonable.

8 The Companies assert that the issue of  
9 uncertainty regarding operability of the reactor in  
10 light of damaged fuel is an inappropriate attempt by  
11 the Staff to provide post-hoc rationalization for  
12 denying the license transfer. In support of this  
13 argument in their concluding statement of position the  
14 Companies point to the Staff's response to the  
15 Companies areas of controversy where the Staff  
16 indicated in a footnote that the damaged fuel was not  
17 the reason for the denial; that the Staff has an  
18 ongoing obligation to protect the health and safety of  
19 the public.

20 To clarify, the Staff's concerns regarding  
21 the damaged fuel were, indeed, part of the Staff's  
22 basis for denying the license transfer, and are not  
23 post-hoc rationalizations. As the Staff's witnesses  
24 have testified and will discuss again today, their  
25 concerns about the damaged fuel existed at the time of



1 the denial. They're noted in multiple RAIs, form the  
2 basis of their conclusions, and is documented in their  
3 safety evaluation.

4 The Companies provided minimal information  
5 in their application regarding how the damaged fuel  
6 would affect operability of the reactor in their cost  
7 and revenue projections. However, as part of this  
8 proceeding, the Companies have attempted to supplement  
9 their application with testimony and exhibits  
10 containing new information regarding these issues. The  
11 Staff did not have this new information to consider  
12 when it was reviewing the Companies' application.  
13 Therefore, it is not relevant to the reasonableness of  
14 the Staff's denial, and should not be considered.

15 Moreover, as Staff witness, Mr. Alexander  
16 Adams, has testified and will discuss again today,  
17 even with this new information there is still  
18 uncertainty regarding operability of the reactor. Mr.  
19 Adams will also clarify that some of the assumptions  
20 that he made in his written testimony have been  
21 modified after reading the new information in Dr.  
22 Slaughter's rebuttal testimony.

23 Finally, in its review of the Companies'  
24 application the Staff also evaluated the cost of spent  
25 fuel storage in part because the Companies proposed

1 premature shutdown of the reactor as a possible  
2 alternative in the event that sources of funding were  
3 not realized. This raised an additional concern  
4 because the Companies indicated that funds to cover  
5 the cost of spent fuel storage would be collected  
6 annually from fees from customers. Thus, if the  
7 Companies prematurely shut down because they are  
8 unable to obtain sufficient revenue and exhaust their  
9 committed funds after the end of the first year, the  
10 Companies would still be liable for approximately an  
11 additional \$4 million in spent fuel storage costs  
12 until 2055, and would not have accumulated sufficient  
13 funding to cover these costs. Therefore, the Companies  
14 could potentially experience a large liability, no  
15 funds with which to pay it. This would be a  
16 significant health and safety issue for the public.

17 The Companies stated in their application  
18 that the spent fuel would not be accepted by the DOE  
19 until at least 2055. The Staff relied on this date of  
20 2055 in its safety evaluation. The 2021 proposed end  
21 date for Aerotest spent fuel storage obligation is new  
22 information that was not before the Staff at the time  
23 of its decision and should not be considered.

24 Based on all of the information the  
25 Companies provided at the time of the Staff's denial,

1 the Staff reasonably concluded that, one, the  
2 Companies did not demonstrate that they have or with  
3 reasonable assurance will have sufficient funding to  
4 conduct activities authorized by the license if the  
5 license is indirectly transferred. And, two, the  
6 Companies did not demonstrate that there will be  
7 sufficient funds to cover the annual cost of spent  
8 fuel storage until the Department of Energy accepts  
9 the spent fuel.

10 The evidence presented today by the  
11 Staff's witnesses and in their written testimony will  
12 demonstrate, and does demonstrate that the Staff's  
13 denial of the Companies' application should be upheld.  
14 Thank you.

15 JUDGE HAWKENS: Thank you. I have a few  
16 questions for you, as well.

17 My first one I think you addressed in your  
18 opening statement, but it goes to what the -- how you  
19 respond to the Companies' assertion that you're  
20 improperly advancing post-hoc rationalizations in  
21 support of the Agency's decision?

22 MS. GHOSH: In terms of the damaged fuel I  
23 think that was their argument. As I stated, this was  
24 misstated in our footnote in the areas of controversy.  
25 The damaged fuel was part of the Staff's basis. It

1 wasn't the only reason, and it wasn't the primary  
2 basis, but it was part of the basis. It was in the  
3 Staff's safety evaluation, and it was noted throughout  
4 their RAIs.

5 JUDGE HAWKENS: It's your position it was  
6 not a post-hoc rationalization.

7 MS. GHOSH: That's correct.

8 JUDGE HAWKENS: You argue that Staff's  
9 decision should be evaluated based solely on the  
10 information in the application and the RAI responses  
11 it reviewed. Correct?

12 MS. GHOSH: Correct.

13 JUDGE HAWKENS: Now, a lot of the  
14 information which the Companies have put forward was  
15 not put forward with such specificity at the Agency  
16 review level, but the nuggets for the idea were  
17 certainly there. To the extent the ideas were already  
18 submitted by the Companies and considered by the  
19 Staff, is there any principle that bars them now from  
20 just submitting information that supplements and  
21 expands those ideas?

22 MS. GHOSH: I think that if they're  
23 explaining something that was already in their  
24 application or RAI, that would be acceptable. But to  
25 the extent that they're introducing new evaluations,

1 new information, new details that was not provided,  
2 the Staff's concern, essentially, with the damaged  
3 fuel was the uncertainty regarding operability of the  
4 reactor. And as the Staff's witnesses will explain  
5 later, the term "operability" appears to be different,  
6 the Staff seems to have a different definition of what  
7 operability means. So, the fuel evaluations, that's  
8 completely new information that the Staff would have  
9 to evaluate during the course of their evaluation.  
10 That would seem to me to be a supplement. And  
11 throughout the Staff's process of reviewing an  
12 application, there is a process there where if the  
13 Staff has questions they would ask additional RAIs,  
14 and that's not something that, you know -- that  
15 process that the Staff follows doesn't really lend  
16 itself to proceeding where they're trying to  
17 essentially supplement their application.

18 JUDGE HAWKENS: Well, it does appear that  
19 there is new and material information that arose after  
20 the Staff made its decision. It could be argued that  
21 perhaps the Staff should have deferred making a  
22 decision until Dr. Slaughter concluded his  
23 examination. Did the Staff ever give any consideration  
24 to that?

25 MS. GHOSH: The Staff did consider that

1 but, again, the damaged fuel is only one part of their  
2 denial. The primary reasons were that under the  
3 regulations the Companies did not meet the (f)(2)  
4 standards requiring submission of five-year cost and  
5 revenue projections.

6 JUDGE HAWKENS: Right. But again, when you  
7 say the main reason, you have several independent  
8 reasons.

9 MS. GHOSH: I have several.

10 JUDGE HAWKENS: And one of them goes to the  
11 damaged fuel because that goes to successful startup,  
12 and successful ability to operate.

13 MS. GHOSH: That's correct.

14 JUDGE HAWKENS: So, I'll go back to that  
15 question. Why did you not suggest that you defer a  
16 final decision until Dr. Slaughter had finished the  
17 examination of the fuel and the core?

18 MS. GHOSH: Even with those evaluations the  
19 Staff would have denied the license transfer based on  
20 the other reasons.

21 JUDGE HAWKENS: Does the Staff typically  
22 use license conditions for license transfer  
23 applications?

24 MS. GHOSH: The Staff has -- my  
25 understanding that they have before. The LES

1 proceeding, I think that was a Part 70 case, and that  
2 was a materials uranium enrichment facility. I think  
3 the underlying concern with license conditions in this  
4 case is that Nuclear Labyrinth and the Companies  
5 essentially were not able to provide sufficient  
6 demonstration of meeting the (f)(2) requirements, the  
7 reasonable five-year cost and revenue projections. A  
8 license condition must be verified through a  
9 ministerial act, and not through like some sort of  
10 substantial evaluation. And their demonstration of  
11 sources of funds was -- you would need like a  
12 carefully drawn license condition, but even with that  
13 it would be difficult to come up with a license  
14 condition -- there would just be too much for the  
15 Staff to verify to have a viable license condition.  
16 Usually, it's some sort of contract that -- there's a  
17 draft contract, and then the Staff could just easily  
18 look at the contract and say okay, this is the final  
19 contract that has gone through.

20 JUDGE HAWKENS: I think I heard Ms. Harshaw  
21 indicate, though, that there was never any time where  
22 the Staff and the Companies sat down to discuss the  
23 possibility of licensing conditions. Is that correct?

24 MS. GHOSH: That is correct.

25 JUDGE HAWKENS: I'll also ask this of your

1 witness, but let me ask this to you. The ability to  
2 provide -- demonstrate revenue to successfully operate  
3 for five years, and then there's the ability to have  
4 sufficient revenues to maintain spent fuel until the  
5 spent fuel is taken by Department of Energy. As to the  
6 latter, as to both, but especially as to the latter,  
7 that would require a successful startup and a  
8 demonstration of successful ability to operate.

9 Now, when I ask about the possibility of  
10 licensing conditions you went principally to the --  
11 their inability, in your view, to be able to  
12 demonstrate a sufficient customer base to show that  
13 they could satisfy five years of successful operation  
14 at the outset. My question is, though, would it be  
15 possible, perhaps, to have constructed a condition  
16 that condition license transfer on the outcome of an  
17 independent assessment by the Staff on whether the  
18 licensee would be able to safely operate, and the  
19 length of time for which you will have sufficient fuel  
20 to operate, and that would be based on an evaluation,  
21 an independent evaluation coupled with an evaluation  
22 of Dr. Slaughter's analysis. And that, to me, possibly  
23 could satisfy your concern that there must be a  
24 ministerial act to confirm that the condition will be  
25 satisfied.



1 MS. GHOSH: To clarify, I'm not sure if it  
2 would be a ministerial act to review the evaluations.  
3 I think there would be some sort of substantive review  
4 of that, but I might be misunderstanding your  
5 question.

6 JUDGE HAWKENS: Okay. Maybe, perhaps I  
7 should pose it to Mr. Adams?

8 MS. GHOSH: Perhaps. I think so, yes.

9 JUDGE HAWKENS: All right. I have no  
10 further questions for you. Thank you.

11 MS. GHOSH: Thank you.

12 JUDGE HAWKENS: Let's proceed to examine  
13 the witnesses. Would counsel for both sides please  
14 introduce their witnesses, starting with the  
15 Companies.

16 MS. HARSHAW: I'd like to introduce Mr.  
17 Michael Anderson. He is the President of Aerotest and  
18 the Vice President and General Counsel of Autoliv.

19 JUDGE HAWKENS: Good morning, Mr. Anderson.

20 MS. HARSHAW: and I have Dr. Slaughter. He  
21 is the President of Nuclear Labyrinth, and a research  
22 professor at the University of Washington.

23 JUDGE HAWKENS: Good morning, Dr.  
24 Slaughter.

25 MS. HARSHAW: Washington State.

1 JUDGE HAWKENS: Thank you both for  
2 traveling to join us today. NRC Staff?

3 MS. GHOSH: I'd like to introduce Anneliese  
4 Simmons and Jocelyn Lian. They were the primary  
5 reviewers of the safety evaluation and the Companies'  
6 application.

7 JUDGE HAWKENS: Good morning, and welcome.

8 MS. GHOSH: I'd also like to introduce  
9 Alexander Adams, and he is the Branch Chief of the RTR  
10 Branch.

11 JUDGE HAWKENS: Thank you for being here,  
12 Mr. Adams. Good morning.

13 For convenience and because it may be  
14 necessary while I'm asking questions of a particular  
15 witness, I may want to ask questions of witnesses who  
16 are not on the stand, let's swear in all the witnesses  
17 at once. So, if everybody would please stand and raise  
18 their right hand.

19 Do you solemnly swear or affirm that the  
20 statements you make in today's hearing will be true  
21 and correct to the best of your knowledge and belief?

22 Thank you. The record will reflect that  
23 each witnesses responded in the affirmative.

24 We're examining the Companies' witnesses  
25 first, starting with Mr. Anderson.

1 MR. ANDERSON: Good morning.

2 JUDGE HAWKENS: Good morning. Are you  
3 ready, sir?

4 MR. ANDERSON: I'm ready.

5 JUDGE HAWKENS: All right. Please when you  
6 answer the question, speak into the mic to assist the  
7 court reporter.

8 MR. ANDERSON: All right.

9 JUDGE HAWKENS: And Mr. Anderson, as well  
10 as to the rest of the witnesses, many of the  
11 questions, perhaps most of them are framed so they can  
12 be answered yes or no, so if you listen carefully, if  
13 they can be answered yes or no, that would be  
14 sufficient. If I have additional follow-up, I'll ask  
15 you for additional information, or if you feel that  
16 it's critical that you put additional information on  
17 the record, please let me know. But keep in mind that  
18 we have the benefit of your initial testimony and your  
19 rebuttal testimony with numerous pleadings and  
20 exhibits, so there's quite a bit of evidence available  
21 to the Commission, so these questions have been  
22 tailored to fill in the gaps.

23 MR. ANDERSON: Okay.

24 JUDGE HAWKENS: Thank you. Aerotest Reactor  
25 was shutdown in the fall of 2010. Is that correct?

1 MR. ANDERSON: That's correct.

2 JUDGE HAWKENS: And when the application  
3 for this transaction was submitted in 2012, the  
4 reactor was shut down for about two years and it was  
5 uncertain when it would return to service. Is that  
6 correct?

7 MR. ANDERSON: That's correct.

8 JUDGE HAWKENS: The application was denied  
9 in July of 2013. Correct?

10 MR. ANDERSON: (No audible response).

11 JUDGE HAWKENS: And at the time of the  
12 denial it was still uncertain when the reactor could  
13 return to service, in part because of the damaged  
14 fuel. Is that correct?

15 MR. ANDERSON: I believe that's correct.

16 JUDGE HAWKENS: The application reported  
17 .  
18 Is that correct?

19 MR. ANDERSON: Yes.

20 JUDGE HAWKENS: How did your -- how did the  
21 information in the application and the RAI responses  
22 indicate with specificity the prior customers' intent  
23 or ability to resume business transactions with  
24 Aerotest?

25 MR. ANDERSON: Well, we attempted to

1 solicit from customers, from prior customers  
2 indications that they would consider returning to  
3 Aerotest. We had transmitted a letter indicating that  
4 the company could no longer provide services, and in  
5 response we received a number of what we believed were  
6 indications that prior customers would consider  
7 returning if the reactor was in a position to restart.

8 JUDGE HAWKENS: Your direct testimony  
9 provides a list of Aerotest's top customers in terms  
10 of revenue over the 2003-2000 time frame, and the  
11 ranges of revenues for that period. Is that correct?

12 MR. ANDERSON: That's correct.

13 JUDGE HAWKENS: This information was not  
14 before the Staff when it made its decision on the  
15 Companies' license transfer application. Is that  
16 correct?

17 MR. ANDERSON: I don't recall.

18 JUDGE HAWKENS: Did you have access to this  
19 information when the license transfer application was  
20 submitted in 2012?

21 MR. ANDERSON: We would have had access,  
22 yes.

23 JUDGE HAWKENS: Assuming this precise  
24 information was not in the application or the RAI  
25 responses, what would the reason for that be?

1 MR. ANDERSON: I don't know.

2 JUDGE HAWKENS: Your direct testimony  
3 states you believe the top past customers would return  
4 to Aerotest because they verbally indicated to  
5 employees at Aerotest a desire to purchase testing  
6 services from Aerotest. Is that correct?

7 MR. ANDERSON: In part, yes.

8 JUDGE HAWKENS: Please explain why the  
9 Companies, if that's the case, provided only two  
10 letters from previous customers to the Staff when it  
11 conducted its initial evaluation.

12 MR. ANDERSON: I believe we provided 26. I  
13 think the Staff reviewed the 26 and felt that only two  
14 of those 26 indicated to them that there was a desire  
15 or would be a consideration of returning to Aerotest.  
16 We disagree with that, but I believe that's the  
17 sequence of events.

18 JUDGE HAWKENS: Did the Companies ask other  
19 previous customers of Aerotest to submit similar  
20 letters?

21 MR. ANDERSON: I don't know for sure.

22 JUDGE HAWKENS: In retrospect, do you think  
23 that would have been a good practice?

24 MR. ANDERSON: When I say I don't know for  
25 sure, I don't know that the managers of the Company

1 did or didn't. Yes, I believe that our goal, or the  
2 goal at that time was try to get as much information  
3 and show as much support from our customers as we  
4 could receive.

5 JUDGE HAWKENS: The two letters from your  
6 previous customers which the Staff took under  
7 consideration indicated they found other providers for  
8 radiography services. Is that correct?

9 MR. ANDERSON: I believe that's true.

10 JUDGE HAWKENS: Do you know what type of  
11 arrangements these past customers had -- currently  
12 have with your competitors?

13 MR. ANDERSON: No.

14 JUDGE HAWKENS: Is it correct that Aerotest  
15 did not employ long-term neutron radiography  
16 contracts?

17 MR. ANDERSON: That is correct.

18 JUDGE HAWKENS: Would you characterize that  
19 as a market reality in the neutron radiography  
20 business?

21 MR. ANDERSON: Yes. I would characterize it  
22 that it's normal that there aren't long-term  
23 contracts.

24 JUDGE HAWKENS: Your direct testimony  
25 states that [REDACTED],

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[REDACTED]

[REDACTED] Correct?

MR. ANDERSON: I believe that's correct, yes.

JUDGE HAWKENS: Is there evidence in the application or the RAI responses to support a conclusion that Aerotest can provide radiography services that are substantially identical to those provided by other facilities at one quarter the cost?

MR. ANDERSON: I believe so. I mean, I would have to look back at the RAI responses and the application, but I believe all the source information is there.

JUDGE HAWKENS: Okay. As we ask these questions, if counsel for the Companies, if they hear a response that he assumes so, if you're able to identify and bring it to our attention so we can put that particular comment on the record later, I'd be grateful.

[REDACTED]

MR. ANDERSON: I can't say, specifically.



1 I don't recall, specifically.

2 JUDGE HAWKENS: That's fair. That's fair.  
3 Would you say as a matter of common sense it's the  
4 reality of the market that price is a significant  
5 driving factor with respect to customer decisions?

6 MR. ANDERSON: Yes, I would.

7 JUDGE HAWKENS: It's approaching four years  
8 now since the Aerotest reactor shut down. What's the  
9 basis for your position that upon restart Aerotest's  
10 costs would increase and equal those of other  
11 facilities to account for inflation?

12 MR. ANDERSON: Well, I -- yes, that's --  
13 it's a good question, it's a fair question. [REDACTED]

[REDACTED]

21 JUDGE HAWKENS: Mr. Anderson, you were also  
22 involved in developing the license transfer  
23 application for X-Ray Industries that the NRC Staff  
24 approved. Is that correct?

25 MR. ANDERSON: That's correct.

1 JUDGE HAWKENS: Is it true that in their  
2 respective applications X-Ray Industries was described  
3 as an established company with considerable assets,  
4 whereas, Nuclear Labyrinth you described as a newly  
5 formed company with minimal assets?

6 MR. ANDERSON: That's correct.

7 JUDGE HAWKENS: Is it true that X-Ray  
8 Industries was described in this application as an  
9 entity that could rely on a parent or affiliate for  
10 funding support?

11 MR. ANDERSON: I don't recall that,  
12 specifically.

13 JUDGE HAWKENS: Is it true there was no  
14 assertion that Nuclear Labyrinth would rely on a  
15 parent or affiliate for support?

16 MR. ANDERSON: I believe that's correct.

17 JUDGE HAWKENS: Is it true that X-Ray  
18 Industries had a long record of operation, revenue,  
19 and profits; whereas, Nuclear Labyrinth as a new  
20 entity has no record of operation, revenue, and  
21 profits?

22 MR. ANDERSON: It's correct, if I can make  
23 one clarifying point, though. X-Ray Industries wasn't  
24 the company that would have taken their shares of  
25 Aerotest stock. It was a newly formed entity that they

1 created.

2 JUDGE HAWKENS: All right, thank you. Is it  
3 true that to meet its predicted costs, Nuclear  
4 Labyrinth would be dependent on revenue that in turn  
5 was contingent on the Aerotest reactor being returned  
6 to service in the future?

7 MR. ANDERSON: I believe that's correct.

8 JUDGE HAWKENS: The X-Ray Industries  
9 license transaction was predicated, in part, on X-Ray  
10 Industries obtaining a commitment by the Department of  
11 Defense to provide for interim storage of the  
12 reactor's spent fuel upon cessation of operations. Is  
13 that correct?

14 MR. ANDERSON: It's almost correct. If I  
15 can explain --

16 JUDGE HAWKENS: Please, do.

17 MR. ANDERSON: The purchase agreement gave  
18 X-Ray Industries kind of an out at the end if they  
19 weren't satisfied with the transaction. The Department  
20 of Defense interim storage issue wasn't a specific  
21 contingency in the agreement, but it was a significant  
22 issue that arose at the end of the transaction. It was  
23 a significant issue to X-Ray Industries.

24 JUDGE HAWKENS: And with the Nuclear  
25 Labyrinth license transfer application, Aerotest and

1 Nuclear Labyrinth would be responsible for interim  
2 storage costs of spent fuel. Is that correct?

3 MR. ANDERSON: Correct.

4 JUDGE HAWKENS: Does the Nuclear Labyrinth  
5 license transfer application provide that DOE would  
6 take the fuel in 2055?

7 MR. ANDERSON: I know the 2055 date has  
8 been spoken about several times. I don't think anyone  
9 has a lot of confidence in that date. It could be  
10 earlier, it could be later. The date, I believe,  
11 appears in the application.

12 MR. SILBERG: Excuse me, Your Honor. Do you  
13 want us to interrupt where we can point out  
14 information in the record, or do that at the end of  
15 questioning?

16 JUDGE HAWKENS: I'd prefer you doing it at  
17 the end of the questioning unless you think it's  
18 essential to make it clear for whoever is reviewing  
19 the transcript, so I'll leave that to your judgment.

20 Mr. Anderson, at the time this application  
21 was being considered to your knowledge had DOE ever  
22 committed to taking the fuel before 2055?

23 MR. ANDERSON: Not to my knowledge.

24 JUDGE HAWKENS: In the event of a premature  
25 shutdown of the Aerotest reactor, what alternatives do

1 the Companies have to safely manage spent fuel?

2 MR. ANDERSON: Well, I think that depends  
3 on how premature shutdown is defined. If the operator  
4 -- I'm sorry, if the reactor has been operating for a  
5 period of time, the fund that Nuclear Labyrinth has  
6 indicated that they're going to create for fuel  
7 storage will be funded. If the reactor shut down the  
8 day after the transaction closed, I think then they're  
9 in a different situation.

10 JUDGE HAWKENS: And can you describe that  
11 situation, please?

12 MR. ANDERSON: Well, then I think funding  
13 becomes an issue.

14 JUDGE HAWKENS: And given that funding  
15 would be an issue, how would Aerotest insure the  
16 safety, public safety and health, again, in the  
17 example that you came up with, in a year after the  
18 transfer was effected, how would they manage the spent  
19 fuel until say 2055 when Department of Energy accepted  
20 it?

21 MR. ANDERSON: Yes, I don't have an answer  
22 for that. We entered this transaction believing that  
23 that was a possibility. I mean, I think the parties to  
24 the transaction believe that the business will be a  
25 going concern for the life of the license. And if we

1 didn't think that that was how it was going to work  
2 out, I don't think any of us would have entered into  
3 it in the first place.

4 JUDGE HAWKENS: In your direct testimony  
5 you stated the license transfer was contingent, among  
6 other things, on Nuclear Labyrinth completing an  
7 investigation of the reactor fuel core to confirm to  
8 its reasonable satisfaction it can sustain operational  
9 power. Is it correct that Nuclear Labyrinth had not  
10 completed its investigation during the time in which  
11 the Staff was considering the license transfer  
12 application?

13 MR. ANDERSON: That is true.

14 JUDGE HAWKENS: Did you ever consider  
15 requesting the Staff to defer its decision pending the  
16 completion of Nuclear Labyrinth's investigation?

17 MR. ANDERSON: I did not.

18 JUDGE HAWKENS: Given that the  
19 investigation was not complete at the time the Staff  
20 denied the application, what basis was there for the  
21 Staff to have concluded that the core as presented in  
22 the license transfer application was able to operate?

23 MR. ANDERSON: Well, I think at that point  
24 the evidence was that it had been in operation I guess  
25 two years before.

1 JUDGE HAWKENS: Any other information, to  
2 your knowledge --

3 MR. ANDERSON: Not that --

4 JUDGE HAWKENS: -- that would provide them  
5 with reasonable assurance that the reactor would  
6 operate, and operate safely?

7 MR. ANDERSON: Other than that, not that I  
8 can -- I think that --

9 JUDGE HAWKENS: Dr. Slaughter represented  
10 in the application and information submitted incident  
11 to it that the transaction would not go forward unless  
12 it were concluded that the reactor was operational.

13 MR. ANDERSON: Correct.

14 JUDGE HAWKENS: Could that have been a  
15 basis on which the Staff could have taken into  
16 consideration in making its conclusion?

17 MR. ANDERSON: Could have been, yes.

18 JUDGE HAWKENS: Mr. Anderson, did you ever  
19 consider at any time during this process suggesting a  
20 licensing condition?

21 MR. ANDERSON: No, not specifically. We  
22 have a number of times tried to determine if there was  
23 a way between the NRC and ourselves we could come to  
24 an agreement, we could satisfy the issues that they  
25 had, and somehow get the process moving forward.

1 JUDGE HAWKENS: Okay. That concludes my  
2 questions for you at this time. Anything further you'd  
3 like to say to supplement or clarify any of your  
4 responses, Mr. Anderson?

5 MR. ANDERSON: I don't believe so.

6 JUDGE HAWKENS: At this point, counsel, is  
7 there anything you'd like to say to clarify or  
8 supplement his responses?

9 MS. HARSHAW: Yes, I think a lot of the  
10 questions that you were asking Mr. Anderson are more  
11 appropriate to ask Dr. Slaughter, and I'm sure you  
12 intend to do so with respect to when the fuel analyses  
13 were complete, and the basis for operability of the  
14 reactor.

15 JUDGE HAWKENS: All right. Thank you, Mr.  
16 Anderson. You may step down.

17 MR. ANDERSON: Thank you.

18 JUDGE HAWKENS: And if Dr. Slaughter would  
19 step forward, I'd be grateful. Thank you. A reminder,  
20 please speak into the mic for the benefit of the court  
21 reporter. And a reminder as well that the questions  
22 are tailored specifically to elicit in many cases yes  
23 or no answers. And if you would answer with a yes or  
24 no, unless you're asked to supplement, or unless you  
25 feel it's critical to supplement, I'd be grateful.



1 DR. SLAUGHTER: Yes, Your Honor.

2 JUDGE HAWKENS: Dr. Slaughter, the  
3 Companies state that you have decades of familiarity  
4 with the research reactor business.

5 DR. SLAUGHTER: Yes.

6 JUDGE HAWKENS: Have you ever successfully  
7 operated a research reactor at profit?

8 DR. SLAUGHTER: No.

9 JUDGE HAWKENS: Your direct testimony  
10 provides the cost estimates for the first five years  
11 of operating expenses and sources of revenue to cover  
12 those expenses.

13 DR. SLAUGHTER: Yes.

14 JUDGE HAWKENS: Do you have special  
15 qualifications for providing those estimates?

16 DR. SLAUGHTER: Yes.

17 JUDGE HAWKENS: Can you describe them,  
18 please?

19 DR. SLAUGHTER: My training and while I've  
20 been working in research reactors is also to  
21 administer them and to manage, and to bring in  
22 reimbursed costs at the University, so I have been  
23 involved in market studies, ultimately with clients,  
24 facilitating people that use the University reactors  
25 to provide services, and those services have to be

1 cost, have to be reimbursed so I have developed a  
2 considerable amount of knowledge on the workings and  
3 the costs associated with it, and the administrative  
4 fees that are associated with these type of reactors.

5 JUDGE HAWKENS: The Companies question that  
6 Staff's methodology for developing the revenue  
7 projection, and claim that yours is reasonable. Can  
8 you provide any support in either financial  
9 literature, NRC guidance documents, or business  
10 practices that support favoring one revenue prediction  
11 over the other?

12 DR. SLAUGHTER: Well, basically what I  
13 would end up doing is looking specifically at what the  
14 particular service, or what the reactor can and cannot  
15 do, and its breakdown. Specifically, I would also look  
16 at what the clients need and focus on the  
17 requirements, and it could include cost, it could  
18 include the fact of timing and quality, all of those.  
19 Then the third is looking at can the reactor provide  
20 that -- those particular issue, or in combination of  
21 those. So, I think the idea of these type of  
22 fundamentally economic and related to commercial  
23 businesses. While universities do not -- are non-  
24 profit, in general, they also work within the business  
25 structure.

1           Also, I'm a Vice President of Research  
2 where we look at services requiring them. Ultimately,  
3 we look at having services provided to us. We're  
4 looking both at cost, the idea of delivering a service  
5 in a timely manner in order for it to be effective in  
6 the obligation or mission that we're going to. And  
7 certainly the quality is of importance, so I look at  
8 it from both sides, as providing service, and also  
9 obtaining a service.

10           JUDGE HAWKENS: Why were your predictions  
11 of revenue and costs preferred over those of the  
12 Staff?

13           DR. SLAUGHTER: Well, the -- when I've  
14 taken a look at the quality of the responses as far as  
15 wanting -- over the years of dedicated service area  
16 test, their ability to provide a service at a cost  
17 that's reasonable. [REDACTED]

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

[REDACTED] It's more than acceptable. It is  
24 probably the best in the industry.

25           And then, ultimately, the quality. Neutron

1 -- Aerotest had worked extensively in this area. They  
2 are very good, if not the top, in the nation on  
3 producing quality neutron radiography.

4 JUDGE HAWKENS: Did you say they were not  
5 the top, or if not the top?

6 DR. SLAUGHTER: They are the top.

7 JUDGE HAWKENS: They are the top.

8 DR. SLAUGHTER: They are the top.

9 JUDGE HAWKENS: In your direct testimony  
10 you provide information related to Nuclear Labyrinth's  
11 plans to expand its mission to include detection and  
12 interrogation of explosive materials and contraband.  
13 Was this information in the license transfer  
14 application, or RAI responses?

15 DR. SLAUGHTER: I believe they were in the  
16 initial application, yes.

17 JUDGE HAWKENS: Your direct testimony  
18 discusses damaged fuel that was found in the reactor.  
19 Does the application or the RAI responses provide  
20 information about costs to account for the damaged  
21 fuel and the possibility of future damage to the fuel?

22 DR. SLAUGHTER: At that time, I don't  
23 believe I -- I was in the middle of the assessment. I  
24 did not believe based on what I had already seen that  
25 there would, in fact, be a need. The financials did

1 not represent the idea of the damaged fuel and what  
2 would be required to do it. It was my belief based on  
3 my analysis at the time and continuing the analysis  
4 that, in fact, the -- it would not impact the  
5 financials. Any cost associated with the damaged fuel  
6 would actually occur before the transfer, it would be  
7 covered before the transfer occurs, before the  
8 closure.

9 JUDGE HAWKENS: The application states the  
10 license transfer will not close until the reactor is  
11 fully operational?

12 DR. SLAUGHTER: The idea that it has --  
13 yes, the idea that it has sufficient fuel is  
14 extremely important. Without it, there's no business.

15 JUDGE HAWKENS: Your direct testimony  
16 states that whether the reactor can support commercial  
17 operations won't be confirmed until after the  
18 transaction is closed. Can you reconcile those two  
19 statements?

20 DR. SLAUGHTER: Yes. One is determining if  
21 there is sufficient fuel in -- and sufficient number  
22 of elements that would be able to sustain license  
23 operation. And the second one is that the transfer is  
24 an operational one, that in order for the reactor to  
25 go up and follow procedure it would have to -- we

1 would have to approach to critical. And then,  
2 ultimately go through the procedure of the tech spec  
3 limitations, and then into service. The first is  
4 dealing with do I have sufficient fuel in the  
5 elements, and the second is fulfilling the obligation  
6 of the NRC in bringing the reactor to critical, and  
7 ultimately in its position to where it can go into  
8 service.

9 JUDGE HAWKENS: Is there a chance that  
10 despite your calculations after the transactions  
11 closes, Aerotest and Nuclear Labyrinth will determine  
12 that the reactor is not fully operational?

13 DR. SLAUGHTER: There's always a chance,  
14 but it's unlikely. The fuel inventory and the  
15 integrity of the cladding that is with the elements  
16 are selected for continuing service, I do not believe  
17 there is that chance, no.

18 JUDGE HAWKENS: But if that occurred, is it  
19 correct that the Companies would be liable for all  
20 costs, including fuel storage costs?

21 DR. SLAUGHTER: That is correct.

22 JUDGE HAWKENS: Can you conceive of a  
23 license condition that could address that eventuality  
24 perhaps to the Staff's and the Companies'  
25 satisfaction? And I'm not asking you to tell me what

1 it is right now, but do you think there is a  
2 possible --

3 DR. SLAUGHTER: Yes, I do.

4 JUDGE HAWKENS: Did you ever suggest one?

5 DR. SLAUGHTER: No. We did have discussions  
6 in which -- within the Companies what would be a type  
7 of arrangements that might be useful, that would  
8 proceed on if there was an impediment, that we could  
9 actually come to an agreement between the NRC to go  
10 forward and still be able to have both parties be  
11 satisfied with their obligations.

12 JUDGE HAWKENS: The ability of the reactor  
13 to operate appears to depend, in part, on the status  
14 of the fuel and the appropriate core design. Would you  
15 agree to that?

16 DR. SLAUGHTER: It's based on the fuel, and  
17 a number of proposed fuel designs, but not necessary  
18 specific to the one that I proposed.

19 JUDGE HAWKENS: Okay. But you did propose  
20 a new core for them.

21 DR. SLAUGHTER: Yes.

22 JUDGE HAWKENS: Okay. Would the new core  
23 design affect safety conditions in the core?

24 DR. SLAUGHTER: No. The reason why is  
25 because in order for that proposed core, until the

1 proposed core goes through, approaches to critical,  
2 and then ultimately meets the restrictions of the tech  
3 spec and SAR, then it goes into service. If it does  
4 not, then another proposed core. So, the question is  
5 no proposed core will go out without making sure that  
6 they have completed and are within the proper  
7 envelope, operating envelope that is described in the  
8 SAR. So, in its proposed core, for example, Aerotest  
9 has 81 proposed cores that went into service, so it  
10 was proposed when they started. They ultimately had to  
11 insure that, in fact, it met the requirements. If they  
12 didn't they would have to do whatever minor changes,  
13 but throughout their history since they went critical  
14 in 1964, they've had proposed 81 cores, and they have  
15 placed into service those 81 cores because it met the  
16 obligation. I suspect they've probably proposed a  
17 number of them that did not, and could not go into  
18 service.

19 JUDGE HAWKENS: How many of any of those  
20 that went into service required license applications,  
21 or license amendment applications?

22 DR. SLAUGHTER: None. It followed within  
23 the SAR obligations following the proper procedures  
24 and guidance.

25 JUDGE HAWKENS: Understand. Is the



1 information regarding the new core or the new core  
2 design calculations in the application or the RAI  
3 responses?

4 DR. SLAUGHTER: In the application or RAI  
5 -- the calculations? No, they were --

6 JUDGE HAWKENS: They are not. Did you ever  
7 consider suggesting to counsel that they defer, asking  
8 the Staff to defer the determination on the license  
9 application until those calculations were completed?

10 DR. SLAUGHTER: No, because my belief was  
11 -- no, I did not. My belief was that we had indicated  
12 that we were not interested unless we had satisfied  
13 ourselves. The transaction would not go forward unless  
14 I was satisfied that I actually had sufficient fuel,  
15 uranium-235 loading, as well in acceptable packaging  
16 and cladding, so I did not. No.

17 JUDGE HAWKENS: Your direct testimony gave  
18 four reasons why you believe former customers will  
19 return to the Aerotest reactor, and new customers will  
20 come.

21 DR. SLAUGHTER: Yes.

22 JUDGE HAWKENS: [REDACTED]

24 DR. SLAUGHTER: Yes.

25 JUDGE HAWKENS: [REDACTED] [REDACTED] [REDACTED]

1

[REDACTED]

2

[REDACTED]

3

[REDACTED]

4

[REDACTED]

5

[REDACTED]

6

[REDACTED]

7

[REDACTED]

8

[REDACTED]

9

[REDACTED]

10

or the RAI responses?

11

DR. SLAUGHTER: I'm not sure.

12

JUDGE HAWKENS: If you're not sure, do you

13

-- in retrospect do you think it should have, if it

14

were not there?

15

DR. SLAUGHTER: Yes.

16

JUDGE HAWKENS: Were your assertions that

17

customers will return supported by any research or

18

analysis?

19

DR. SLAUGHTER: Excuse me, I'm sorry. Could

20

you repeat that?

21

JUDGE HAWKENS: You assert the customers

22

will return.

23

DR. SLAUGHTER: Yes.

24

JUDGE HAWKENS: Prior customers will

25

return, and new customers will come.

1 DR. SLAUGHTER: True.

2 JUDGE HAWKENS: Is that supported by any  
3 research or analysis?

4 DR. SLAUGHTER: Yes. I did a market study.  
5 Not only did I do the study on the function of  
6 Aerotest, but also looking at the clients and what  
7 their needs are, and the -- and, ultimately, what is  
8 the critical aspects of production.

9 JUDGE HAWKENS: Okay. Can you hold up that.  
10 I'm going to come back to you about the study that you  
11 did a little bit later.

12 DR. SLAUGHTER: Yes.

13 JUDGE HAWKENS: And I'll give you the  
14 opportunity to fully discuss that then.

15 Your direct testimony states Department of  
16 Energy could take the spent fuel as early as 2021.

17 DR. SLAUGHTER: Yes.

18 JUDGE HAWKENS: Is there any evidence in  
19 the license application which shows a commitment by  
20 DOD to take it that early?

21 MR. SILBERG: Excuse me. Did you say DOD or  
22 DOE, sir?

23 JUDGE HAWKENS: If I said DOD, I meant to  
24 say Department of Energy. Thank you.

25 DR. SLAUGHTER: Excuse me. Try that again,

1 please. I'm sorry.

2 JUDGE HAWKENS: Is there any evidence in  
3 the license application to indicate DOE has made a  
4 commitment to take the fuel as early as 2021?

5 DR. SLAUGHTER: No.

6 JUDGE HAWKENS: Does the license  
7 application indicate that DOE will not take the fuel  
8 before 2055?

9 DR. SLAUGHTER: No, I don't believe that  
10 there's one saying that they will not take it any  
11 earlier.

12 JUDGE HAWKENS: Do you recall how it's  
13 phrased in the application?

14 DR. SLAUGHTER: No, I do not.

15 JUDGE HAWKENS: Your testimony indicates a

16 [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]. Is that correct?

20 DR. SLAUGHTER: That is correct.

21 JUDGE HAWKENS: Was that information in the  
22 application or the RAI responses?

23 DR. SLAUGHTER: Yes, I think it's in the  
24 initial budget and finances. How much detail and  
25 description is not clear. It is put into the

1 financials.

2 JUDGE HAWKENS: You may have mentioned this  
3 earlier, but how long have you held the position of  
4 Vice President of Research at MSI Photogenics?

5 DR. SLAUGHTER: Five, six years.

6 JUDGE HAWKENS: So, you held that position  
7 at the time the application was being considered?

8 DR. SLAUGHTER: Yes.

9 JUDGE HAWKENS: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Is that correct?

13 DR. SLAUGHTER: A portion of it, yes.

14 JUDGE HAWKENS: A portion of it. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Is that correct?

18 DR. SLAUGHTER: Right. And then also the  
19 patent holder of the technology which we're advancing.

20 JUDGE HAWKENS: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1

JUDGE HAWKENS: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

11

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

15

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

1 timing of the experiment when you're doing development  
2 work is critical. As of right now, I have not been  
3 able to provide any of the research. People have  
4 approached me to give them a schedule availability so  
5 that these type of resources can be available to me.

6 JUDGE HAWKENS: Did you expressly inform  
7 the NRC Staff in the application or the RAI responses  
8 that you had a high level of confidence based on your  
9 discussions with the President, [REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]

13 DR. SLAUGHTER: I don't recall during the  
14 submission of the application. I'm not sure.

15 JUDGE HAWKENS: Do you think that would  
16 have been something that would have been well to bring  
17 to their attention explicitly and precisely?

18 DR. SLAUGHTER: Yes, I do.

19 JUDGE HAWKENS: As part of the application,  
20 the Companies state [REDACTED]

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

23 Please explain the basis for that particular figure.

24 DR. SLAUGHTER: Right. That is the current  
25 level of research that I currently do, as well as the

1 services that I send out to other university reactors,  
2 or any reactors that can meet the particular  
3 experimental obligations. For example, we go to  
4 Lowell, Mass and use their neutron radiography beam in  
5 order to do some of our work. That type of work can be  
6 put directly into Aerotest. But it is part of my  
7 modeling, part of my research, part of the services  
8 that are required for the neutron development,  
9 detector development.

10 JUDGE HAWKENS: [REDACTED]  
[REDACTED]

12 [REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

18 JUDGE HAWKENS: To your knowledge, was the  
19 basis of this figure discussed in the application or  
20 the responses to the RAIs?

21 DR. SLAUGHTER: I don't believe so.

22 JUDGE HAWKENS: Talking a little bit about  
23 training revenues. The application stated the  
24 anticipated funds from training were [REDACTED]. Is that  
25 correct?



1 DR. SLAUGHTER: Yes.

2 JUDGE HAWKENS: And the Companies stated  
3 this figure was based on 2011 earnings. Is that  
4 correct?

5 DR. SLAUGHTER: It is based on -- yes.

6 JUDGE HAWKENS: Can you tell me what was  
7 included in that figure?

8 DR. SLAUGHTER: It is basically, I believe,

9 

11 This is the traditional cost that they actually have  
12 done over a number of years. This is neutron  
13 radiography training of the licenses.

14 JUDGE HAWKENS: All right. And neutron  
15 radiography training that requires an operating  
16 reactor, or that requires -- or that can allow a  
17 shutdown reactor?

18 DR. SLAUGHTER: In the case in these  
19 several years they have a bank of neutron radiographs  
20 they have been using. It does not necessarily require  
21 an operating reactor to do the training.

22 JUDGE HAWKENS: Okay. And in 2011 it was  
23 shut down, so it necessarily would be shut down  
24 training.

25 DR. SLAUGHTER: Right.

1 JUDGE HAWKENS: In 2011, Aerotest had sales  
2 of [REDACTED] Do you recall that?

3 DR. SLAUGHTER: In my due diligence, I  
4 think that's true.

5 JUDGE HAWKENS: The Companies stated  
6 there's no indication the Staff's projected revenues  
7 credited this [REDACTED] revenue. However, the Staff's  
8 safety evaluation notes on page 6 that Aerotest had  
9 sales of [REDACTED] in 2011, doesn't it? Do you recall  
10 that?

11 DR. SLAUGHTER: Yes. While I'm not the  
12 Company, but in my due diligence I do recall it, and  
13 I do recall the statement, yes.

14 JUDGE HAWKENS: Okay. Are you aware of  
15 anywhere in the application or the responses to the  
16 RAIs where the Companies provided information on how  
17 that [REDACTED] was generated in 2011?

18 DR. SLAUGHTER: I am not.

19 JUDGE HAWKENS: Okay. In your rebuttal  
20 testimony you state that revenue assumptions regarding  
21 the number of radiographs in year two, which was

22 [REDACTED]  
[REDACTED]  
[REDACTED]

25 DR. SLAUGHTER: Yes.

1 JUDGE HAWKENS: Is that correct? Can you  
2 point out where in the application or the RAI  
3 responses you included that during the second year of  
4 operation, Aerotest would sell about [REDACTED]  
5 radiographs?

6 DR. SLAUGHTER: I don't believe it's in  
7 there.

8 JUDGE HAWKENS: What evidence is in the  
9 application or the RAI responses that supports the  
10 assumption that [REDACTED]

[REDACTED]

[REDACTED]

13 DR. SLAUGHTER: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

22 JUDGE HAWKENS: That sounds like a good  
23 common sense rationale. Was that rationale provided in  
24 the application or the RAI responses?

25 DR. SLAUGHTER: I am not certain. The

1 particular responses I believe were in summary of, so  
2 perhaps they were not in there.

3 JUDGE HAWKENS: The Companies stated that  
4 operating costs are directly a proportion of the  
5 services provided, and it was inappropriate for the  
6 NRC Staff to compare its questionable revenue  
7 estimates to the Companies' cost estimates. Is that  
8 correct?

9 DR. SLAUGHTER: I think that's correct. I  
10 think it's unfair.

11 JUDGE HAWKENS: Is it true that regardless  
12 of the amount services provided by the reactor,  
13 staffing costs alone for one year are about [REDACTED] ?

14 DR. SLAUGHTER: At the current staffing  
15 levels, yes. That need not be the case if that was --  
16 if there was limited work, or that it would shut  
17 down. As the current levels of operation now, only to  
18 prepare for, hopefully, a transfer and moving forward.  
19 One doesn't necessarily have to retain those costs in  
20 order to be safe and secure, and follow regulations.

21 JUDGE HAWKENS: Did the application provide  
22 a breakdown for how the staffing costs in addition to  
23 the radiography costs would be paid for?

24 DR. SLAUGHTER: I'm sorry, try that again.

25 JUDGE HAWKENS: Did the application, not

1 the information that's come in --

2 DR. SLAUGHTER: Yes.

3 JUDGE HAWKENS: -- as a result of the  
4 adjudication, but did the application provide a  
5 breakdown for how the staffing costs in addition to  
6 the radiography costs would be paid for?

7 DR. SLAUGHTER: No, I don't think so.

8 JUDGE HAWKENS: In response to the Staff's  
9 requests for additional information while the Staff  
10 was considering the license application, why didn't  
11 the Companies obtain communications from additional  
12 prior customers to show the likelihood that they would  
13 return?

14 DR. SLAUGHTER: I think they did. In fact,  
15 they have a considerable number, I think 26 letters.  
16 The distinction is what was required or accepted. I  
17 think that when you read the letters you indicate the  
18 fact that there is a significant desire to come back.  
19 The distinction is that they may not be able to  
20 without an understanding of timing, they may not be  
21 able to actually authorize or indicate a more stronger  
22 level of commitment. But I think they did.

23 JUDGE HAWKENS: To your knowledge, did the  
24 Companies actually send out a wide mailing, or a wide  
25 solicitation to previous customers to try to obtain

1 these type of representations from the companies that  
2 they would like to come back?

3 DR. SLAUGHTER: My belief is there has  
4 always been communication. That's probably a question  
5 more for Mike Anderson. The issue is that my  
6 understanding is there has always been continual  
7 communication. Has there been probably emails? I do  
8 not know what the extent of the solicitation was.

9 JUDGE HAWKENS: Returning to your market  
10 study question that I said I was going to come back  
11 to, in your rebuttal testimony you state the cost and  
12 revenue projections were based in part on a market  
13 study to understand the key factors that make Aerotest  
14 Operations attractive to customers and set it apart  
15 from its competitors. When was this market study  
16 performed?

17 DR. SLAUGHTER: It was done when I was  
18 doing my due diligence. It's the data that I  
19 collected, and I collected the -- it is my market  
20 study with the data that I obtained from my due  
21 diligence.

22 JUDGE HAWKENS: And when was your due  
23 diligence performed in relation to the Staff  
24 completing its review of the application and rendering  
25 a final decision?

1 DR. SLAUGHTER: It was completed before.

2 JUDGE HAWKENS: Okay.

3 DR. SLAUGHTER: In fact, it is -- part of  
4 that element is, in fact, the financials, is present  
5 in the fact of the evaluation of Aerotest itself and  
6 the clients. So, it was all done before.

7 JUDGE HAWKENS: And what data did you use  
8 to support the market study?

9 DR. SLAUGHTER: I [REDACTED]

[REDACTED]

19 [REDACTED]

[REDACTED]

25 [REDACTED]

1

[REDACTED]

13

[REDACTED]

17

JUDGE HAWKENS: Did you submit pricing data

18

for similar suppliers?

19

DR. SLAUGHTER: No, I did not.

20

JUDGE HAWKENS: Why?

21

DR. SLAUGHTER: I didn't think that it was

22

important in comparison to what we were offering, or

23

what I was offering and seeing. I just did not do it.

24

JUDGE HAWKENS: [REDACTED]

[REDACTED]



1

DR. SLAUGHTER: [REDACTED]

[REDACTED]

10

[REDACTED]

17

[REDACTED]

19

JUDGE HAWKENS: In light of the fact that

20

the burden is on the applicant to demonstrate it

21

satisfies financial qualification requirements, don't

22

you think it would have prudent to put that study in

23

its entirety in the record before the Staff while it

24

was considering the application?

25

DR. SLAUGHTER: Given where we are now,

1 yes.

2 JUDGE HAWKENS: To your knowledge, have  
3 other suppliers ever had a prolonged shutdown like the  
4 Aerotest reactor?

5 DR. SLAUGHTER: Not to my knowledge.

6 JUDGE HAWKENS: [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

13 [REDACTED] In light of that expressed sentiment, what  
14 evidence did you provide to demonstrate that these and  
15 other prior customers will return to Aerotest seeking  
the same level of procurement as before?

16 DR. SLAUGHTER: Well, I looked at those  
17 replies and I took them very seriously because there  
18 is -- that is one of the reasons why we're looking  
19 very closely at making sure that we are conservative  
20 in our numbers, be able to cover the cost, because  
21 there is going to be the idea of losing a supply line  
22 is critical to these businesses. So, ultimately, there  
23 was a consideration and has to be in the model that  
24 not 100 percent would be coming back. That's one of  
25 the reasons why the conservative number, because it is

1 only prudent given what has happened over the years.  
2 We've been down for several years, Aerotest was down  
3 for several years. They certainly do not want to put  
4 themselves in a bind. I understand that. We will have  
5 to earn that right, but in my financials I take that  
6 into consideration, that there is not going to be the  
7 old days of sole sourcing. There are going to be  
8 clients that are afraid of what may happen in the  
9 future. Yes, that is considered in the financials.

10 JUDGE HAWKENS: And is that conservatism  
11 incorporated in your [REDACTED] figure of --

12 DR. SLAUGHTER: Yes, it is. It is.

13 JUDGE HAWKENS: NUREG-1537 states, "The  
14 applicant should discuss how the facility can be  
15 safely operated if some potential sources of funding  
16 are not realized."

17 DR. SLAUGHTER: Yes.

18 JUDGE HAWKENS: How will the Aerotest  
19 reactor be safely operated if less than [REDACTED] of  
20 our Aerotest 2009 customers return?

21 DR. SLAUGHTER: Because the basis of  
22 operation of the [REDACTED] is sufficient for full  
23 operation of the facility. It is -- that isn't -- I  
24 guess I'm confused because that line, a number of  
25 radiographs is sufficient for its operation and will

1 cover all costs. There is no deficit here that will be  
2 realized.

3 JUDGE HAWKENS: Right. And maybe you didn't  
4 hear the question. Let me repeat it.

5 DR. SLAUGHTER: All right.

6 JUDGE HAWKENS: How will it be safely  
7 operated if less than [REDACTED] of the 2009 customers  
8 return?

9 DR. SLAUGHTER: Then there will be an  
10 adjustment to the workforce, but also to the materials  
11 and all of that that would be required to be reduced,  
12 and scaled appropriately. So, it will still be able to  
13 -- this isn't necessarily -- this is a projection.

14 JUDGE HAWKENS: Again, NUREG-1537 says,  
15 "The applicant should discuss how the facility can be  
16 safely operated if some potential sources of revenue  
17 are not realized." Did you discuss in the application  
18 what Aerotest would do in the event that you did not  
19 bring [REDACTED] of your 2009 revenue in in year two?

20 DR. SLAUGHTER: I am not certain we did.

21 JUDGE HAWKENS: Do you know how -- you  
22 assumed [REDACTED]. [REDACTED]  
[REDACTED], if you know, and still safely  
24 operate?

25 DR. SLAUGHTER: I'd have to do the

1 calculation and the evaluation, but we could go lower.  
2 The question is is how low, and I don't know until I  
3 actually do the evaluation. It could be significantly  
4 lower.

5 JUDGE HAWKENS: But you have a reasonable  
6 level of confidence that [REDACTED] would come back.

7 DR. SLAUGHTER: The lowest --

8 JUDGE HAWKENS: Based on the cost, the  
9 efficiencies, and the quality --

10 DR. SLAUGHTER: Absolutely, I do.

11 JUDGE HAWKENS: -- of Aerotest.

12 DR. SLAUGHTER: I do.

13 JUDGE HAWKENS: The Companies described  
14 your due diligence as including reviewing the  
15 reactor's historical costs, production, processes, and  
16 a visual inspection of every fuel element used in the  
17 reactor. Is that correct?

18 DR. SLAUGHTER: Yes.

19 JUDGE HAWKENS: Was information regarding  
20 the visual inspection of the fuel elements provided to  
21 the Staff as part of the application?

22 DR. SLAUGHTER: My understanding that all  
23 the information that when it comes to review -- all  
24 information concerning the fuel has been provided by  
25 the Staff, but not by through the application. It's

1 provided by Aerotest as far as the inspection  
2 obligations. They provided the same inspection disks  
3 that I also reviewed of those elements inspections.

4 JUDGE HAWKENS: Was your inspection  
5 performed after the Staff had made its decision on the  
6 application?

7 DR. SLAUGHTER: No, it was much before. It  
8 was -- there was two, in fact, inspections, the 2011  
9 and 2012 inspection. And the tapes I think are  
10 comprehensive on the 2013 inspection, those tapes. But  
11 I also reviewed the 2011 tapes that were provided to  
12 me in my earlier due diligence.

13 MR. SILBERG: Excuse me, Your Honor. Could  
14 we just have clarification, it's not clear to me  
15 whether we're talking about inspections by Dr.  
16 Slaughter, or by NRC, or by --

17 JUDGE HAWKENS: I'm referring to  
18 inspections conducted by Dr. Slaughter pursuant to his  
19 due diligence.

20 DR. SLAUGHTER: That was provided as the  
21 inspections -- I provided the inspection tapes of the  
22 2011 and 2012 NRC regulated obligated inspection. I  
23 was provided those as part of my due diligence  
24 process, so I did not make tapes. They were made in  
25 the process of doing their normal regulatory

1 inspection, and then they provided me a full copy, as  
2 the NRC with that.

3 JUDGE HAWKENS: The inspection was based on  
4 prerecorded video.

5 DR. SLAUGHTER: Yes.

6 JUDGE HAWKENS: How did this affect your  
7 ability to analyze areas you thought should receive  
8 additional scrutiny, if there were any areas? If  
9 you're looking at prerecorded video, how did that  
10 affect your ability in conducting a comprehensive  
11 inspection of the fuel elements to analyze areas you  
12 thought should receive additional scrutiny?

13 DR. SLAUGHTER: No additional, but this was  
14 particularly comprehensive given the nature of why  
15 they were looking at that fuel. It included a number  
16 of normal tests that normally take place in an  
17 inspection, a visual inspection that looks for seeding  
18 and also looks for bowing, looks for swelling, so it's  
19 very comprehensive. It's completely 360 degrees full-  
20 length inspections. There would not be a need for an  
21 additional inquiry.

22 Also, on top of that I took all those  
23 elements where they particularly placed in the core  
24 and went back historically where they had been, where  
25 they were moved, ultimately, what the history of each

1 of those elements were. So, this particular inspection  
2 was specifically very detailed.

3 JUDGE HAWKENS: In your rebuttal testimony  
4 you propose a core with 64 aluminum and stainless  
5 steel fuel elements. Correct?

6 DR. SLAUGHTER: Propose a core of 64, yes.

7 JUDGE HAWKENS: This information was not  
8 provided to the Staff as part of the original  
9 application, was it?

10 DR. SLAUGHTER: No, I don't believe it was.

11 JUDGE HAWKENS: When did you conclude the  
12 core design analysis described in your rebuttal, in  
13 March?

14 DR. SLAUGHTER: At the end of March.

15 JUDGE HAWKENS: End of March, 2014.

16 DR. SLAUGHTER: No. No, no, 2012. It would  
17 be '13 as we -- I had completed it 2013, it was 2013,  
18 March, 2013.

19 JUDGE HAWKENS: Did the application or the  
20 RAI responses provide an analysis of the fuel  
21 inventory demonstrating the reactor could be fully  
22 operational with the existing fuel elements at the  
23 time the application was considered?

24 DR. SLAUGHTER: Not before -- no, it does  
25 not.



1 JUDGE HAWKENS: The Companies' position  
2 that the Staff's financial analysis is arbitrary  
3 because it assumes reactor would prematurely shut down  
4 and prevent collection of fees for among other things  
5 operations, and spent fuel storage. The Staff in  
6 coming up with that potential conclusion state the  
7 Companies said that if the financial projections are  
8 not met, the reactor would shut down. Correct? Why is  
9 the Staff acting arbitrarily in pointing out the  
10 Companies' representation that if we don't have  
11 sufficient funding, we'll have to shut down?

12 DR. SLAUGHTER: We did say that, yes. If we  
13 do not have sufficient funding that we would shut  
14 down.

15 JUDGE HAWKENS: It's correct, however, you  
16 -- your position is that shutdown is simply not  
17 plausible, and is not likely.

18 DR. SLAUGHTER: I believe that's correct.  
19 It is not a reasonable, plausible outcome.

20 JUDGE HAWKENS: You state in the  
21 application that effective Fitness for Duty criteria  
22 and fuel management, the cracked cladding would be  
23 avoided in the future. Is that correct?

24 DR. SLAUGHTER: That is true.

25 JUDGE HAWKENS: Was this provided to the

1 Staff as part of the application or RAI responses?

2 DR. SLAUGHTER: No, it was not.

3 JUDGE HAWKENS: In your rebuttal testimony  
4 you also discuss an inspection and fuel management  
5 program. Was that provided to the Staff in the  
6 application or the responses?

7 DR. SLAUGHTER: No, I didn't think it was  
8 necessary. That's usually normal protocols, so I  
9 didn't think it was necessary.

10 JUDGE HAWKENS: That concludes my  
11 questions. At this time, Dr. Slaughter, do you have  
12 any -- before we go to the next witnesses, have  
13 anything you'd like to add, supplement, further  
14 explanation to your answers?

15 DR. SLAUGHTER: I don't believe so. No.

16 JUDGE HAWKENS: Counsel, do you have any  
17 follow-up?

18 MS. HARSHAW: Yes, I would like to point  
19 out the wording in the application regarding DOE's  
20 commitment. We've been using this term commitment, but  
21 there was no commitment. What was stating was in the  
22 decommissioning trust fund, in the decommissioning  
23 plan at page 60 of NRC008P, that it's currently  
24 projected to be sometime after 2055 that DOE would  
25 take the fuel. Furthermore, we said if offsite storage

1 is a possibility, then we can decommission earlier.  
2 And then in our response to RAIs at NRC026P at page 3,  
3 we stated even in the unlikely event that fuel is not  
4 sent until after 2055, we never stated that DOE had  
5 committed to take it at 2055 or after. And DOE came  
6 out with a different strategy following submission of  
7 our application, which the Staff is well aware of.

8 MS. UTTAL: Your Honor, I don't want to get  
9 into a fight about these dates at this point, but the  
10 strategy that they speak of is not really applicable  
11 to non-power reactors. That's the Staff's position at  
12 this point, as indicated in our pleadings.

13 JUDGE HAWKENS: Right. I think those  
14 arguments are pretty fleshed out in the pleadings that  
15 are in the record.

16 MR. SILBERG: I would correct, though, that  
17 there is absolutely nothing in the DOE January 2013  
18 strategy that says it is not applicable to non-power  
19 reactors. The provision that says that DOE intends to  
20 begin accepting spent fuel from decommissioned  
21 reactors by 2021 is unqualified by whether they're  
22 power reactors or non-power reactors. It's simply  
23 incorrect to say that it only applies to power  
24 reactors.

25 JUDGE HAWKENS: All right, thank you. You

1 may step down, Dr. Slaughter, thank you.

2 Let me ask counsel, we can proceed with  
3 questions for the NRC Staff witnesses. Would anybody  
4 like to take a quick break before we do that? All  
5 right. You voted yes, the witnesses also. I have about  
6 11:55. Would a 10-minute break suffice? Counsel  
7 indicate it would suffice for both sides, NRC Staff.  
8 Let's meet back again at five minutes after 12:00  
9 then. Thank you.

10 (Whereupon, the above-entitled matter went  
11 off the record at 11:52 a.m., and resumed at 12:05  
12 p.m.)

13 JUDGE HAWKENS: We'll start by asking  
14 questions direction of Ms. Lian and Ms. Simmons.  
15 Based on the time it took to question the prior  
16 witnesses, I would guess I have about 45 minutes of  
17 questions for them. Counsel, do you want to just  
18 proceed and see how it goes? And if you want to stop  
19 at any point for lunch, you can certainly interrupt me  
20 and we can stop at that point. Staff?

21 MS. UTTAL: Sure. If it's going to be  
22 only 45 minutes or so, that would be fine.

23 MR. SILBERG: That's fine.

24 JUDGE HAWKENS: You good with that? Good,  
25 thank you. Ms. Lian and Ms. Simmons, please come up

1 to the witness box. Good morning. Let me know when  
2 you're properly situated.

3 All right. A reminder that our questions  
4 are framed, in many cases, so that they're susceptible  
5 of a yes or no answer. So unless you think it's  
6 critical to follow up to that or if I have additional  
7 questions, I will certainly ask them.

8 Many of these questions I want both of you  
9 to consider. I will direct them to Ms. Lian  
10 principally because I think you were the ultimate  
11 reviewer and analyst, whereas, if I understand  
12 correctly, Ms. Simmons provided a lot of the facts and  
13 provided drafting information; is that correct?

14 MS. LIAN: Yes.

15 JUDGE HAWKENS: All right. So in some  
16 cases, I'll direct you to a particular individual. If  
17 the other individual has a different answer, please  
18 chime in. Otherwise, if I need to ask both of you  
19 expressly, I will.

20 It's the staff's view the company's  
21 assumption underlying the revenue projections are  
22 seriously lodged with governing realities and do not  
23 resolve uncertainties surrounding the transfer and  
24 that these uncertainties remain significantly greater  
25 than those that usually cloud business outlooks.

1 This question is directed to you both. Do  
2 you have experience running a research reactor?

3 MS. LIAN: No, I do not.

4 MS. SIMMONS: No, I don't.

5 JUDGE HAWKENS: Do you have experience  
6 running a business that provides neutron radiography  
7 services?

8 MS. LIAN: No, I do not.

9 MS. SIMMONS: No, I do not.

10 JUDGE HAWKENS: Do you have experience  
11 running any business?

12 MS. LIAN: I tried to start a company  
13 before, but I did not continue it. So it could be  
14 possibly yes.

15 MS. SIMMONS: Yes, I was a management  
16 consultant, self employed, for about seven years.

17 JUDGE HAWKENS: Have you ever developed  
18 revenue projections for a business, such as Aerotest?

19 MS. LIAN: Not Aerotest. Not business,  
20 not Aerotest, I have not.

21 MS. SIMMONS: I developed revenue  
22 projections but not for a test reactor.

23 JUDGE HAWKENS: Have you previously  
24 performed a financial qualification review for  
25 commercial research reactors, such as Aerotest?

1 MS. LIAN: No, I have not.

2 MS. SIMMONS: I conducted a number of  
3 financial qualifications reviews but not for a  
4 commercial research and test reactor.

5 JUDGE HAWKENS: Would each of you please  
6 describe your education and training on how to develop  
7 financial projections for businesses that are not  
8 currently operating?

9 MS. LIAN: So you want specific for  
10 business not operating. I have a --

11 JUDGE HAWKENS: For both, operating and  
12 non-operating.

13 MS. LIAN: So I obtained my master's in  
14 business administration from the University of  
15 Maryland back in 2010. During this time, I have  
16 developed two business plans and plans for running a  
17 business. In addition, I was contracted out as a  
18 student consultant for two established companies to do  
19 the market analysis, custom behavior analysis, and  
20 comparative analysis in order to develop a strategy  
21 for the companies moving forward.

22 So in that regard, yes, I did a company  
23 revenue projection. And as far as my business plan  
24 goes, yes, I did market analysis study to develop a  
25 revenue projection and also cost projection for my

1 business.

2 JUDGE HAWKENS: Thank you. Ms. Simmons?

3 MS. SIMMONS: First of all, your Honor,  
4 I'd like to clarify my previous response. I have done  
5 a financial qualifications review for Aerotest for the  
6 x-ray transfer, so that was an --

7 JUDGE HAWKENS: Thank you. All right.

8 MS. SIMMONS: As for -- just to clarify  
9 your question, operating reactor and a non-operating  
10 reactor, I've done a number of financial  
11 qualifications reviews for license transfers of  
12 operating power reactors, including x-ray. For  
13 non-operating or potential revenue-generating  
14 reactors, I've conducted financial qualifications  
15 reviews for new reactors, so those are reactors that,  
16 you know, have not been constructed yet. So those  
17 would be looking at projections far into the future,  
18 even after construction.

19 JUDGE HAWKENS: Thank you. Ms. Lian, am  
20 I pronouncing your name correctly?

21 MS. LIAN: Yes.

22 JUDGE HAWKENS: You stated the companies  
23 did not demonstrate their revenue projections were  
24 reasonable. Did you compare the revenue projections  
25 with Aerotest's historical revenue?



1 MS. LIAN: Yes, I did.

2 JUDGE HAWKENS: And how did they compare?

3 MS. LIAN: Their revenue projection is --  
4 let me see. Let me make sure I get it right. If you  
5 don't mind, I'll look at it just to make sure I'm  
6 speaking properly. I'm looking at their five-year  
7 revenue projection compared to the historic data from  
8 2003 to 2011. Their revenue numbers seems to be  
9 consistent with the historic data.

10 JUDGE HAWKENS: Did you compare the  
11 revenue projections with the projections provided in  
12 the X-Ray Industry's license transfer application for  
13 this transfer?

14 MS. LIAN: I review it, but I don't  
15 remember exact detail. Ms. Simmons might have more  
16 information on that.

17 JUDGE HAWKENS: Could you respond to that  
18 question, Ms. Simmons?

19 MS. SIMMONS: Yes, we did. In both  
20 instances, historical Aerotest financial information  
21 was provided and it was consistent across both  
22 applications.

23 JUDGE HAWKENS: Did you compare the  
24 revenue projection with other commercial research  
25 reactors?

1 MS. SIMMONS: There really aren't many  
2 other comparable facilities for nonpower reactors, so  
3 we did not conduct that kind of a research.

4 JUDGE HAWKENS: The company's revenue  
5 projections for radiography reflect the impact of the  
6 prolonged shutdown by reducing historical revenues to  
7 [REDACTED] of the lowest annual revenue for this  
8 service during the period of 2005 to 2009. Is this an  
9 unreasonable assumption? And I'll direct this to Ms.  
10 Lian?

11 MS. LIAN: Well, it's kind of hard to  
12 answer with a yes or no. When you develop this kind  
13 of assumption, it is not unreasonable. But our  
14 findings not really why. The unreasonableness comes  
15 in that the company just did not provide information  
16 to support that revenue projection.

17 JUDGE HAWKENS: So did I hear you  
18 correctly that the revenue projection based on [REDACTED]  
19 [REDACTED] of the lowest annual revenue income in the  
20 recent past is not unreasonable?

21 MS. LIAN: Again, it's kind of hard to  
22 answer the question. Back in 2009, if I would remind,  
23 let everybody know, it wasn't an operating reactor.  
24 It had its own business, its own customer base. So at  
25 the time, yes, that revenue projection would be good.

1 If today the reactor is operational and still have  
2 that customer base, that revenue assumption would be  
3 reasonable. The issues that the reactor has to be  
4 shut down two years at a time, it has no customer  
5 base, the company just could not provide evidence to  
6 support that revenue projection.

7 JUDGE HAWKENS: But they can make  
8 predictions, correct?

9 MS. LIAN: They can make predictions, yes.

10 JUDGE HAWKENS: And let me ask you, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] why isn't it at least plausible and  
14 reasonable, notwithstanding that it's been shut down  
15 for approaching four years, that all these factors  
16 would combine to result in a return of prior customers  
17 which had a lengthy history with Aerotest?

18 MS. LIAN: I want to make sure I captured  
19 that. The pricing of Aerotest, Dr. Slaughter's  
20 marketing analysis was not included in the  
21 application. Therefore, I have no reason to believe  
22 that that's the case.

23 But to answer the question, again, our  
24 concern is there's no customer base. And the majority  
25 of the funds the company has stated that will come

1 from those customers, we have public health and safety  
2 concern because they do need money to run the operator  
3 reactor safely.

4 Hold on one second. Again, we understand  
5 the reactor has been running for decades and to  
6 provide service to a customer. However, we cannot  
7 overlook the fact that those customers are using some  
8 other suppliers. So the current relationship with  
9 those suppliers sometimes can be more important than  
10 historic relationship, and we have no way of knowing  
11 how the competitor is going to react. So in that  
12 case, there are more factors to look into, other than  
13 just the Aerotest competitive advantage.

14 MS. SIMMONS: Perhaps just to add to that  
15 answer, although that is one factor that, in and of  
16 itself, may not be unreasonable regarding the  
17 projections or the revenue levels at 2009, it still  
18 didn't alter the staff's conclusion that the companies  
19 have not met the requirements of the regulations,  
20 which is to demonstrate sufficient revenue to cover  
21 the five-year cost projection.

22 JUDGE HAWKENS: Well, that's correct, but  
23 that's all locked up in the prediction that they would  
24 have [REDACTED] recurring.

25 MS. SIMMONS: I would agree --

1 JUDGE HAWKENS: Do you agree that if, in  
2 fact, they were able to get that [REDACTED] back and  
3 the reactor were operating and sustainable that this  
4 would be a very different case? In fact, there's a  
5 substantial possibility that you would have been  
6 satisfied if they met their financial qualification  
7 requirements?

8 MS. SIMMONS: Certainly, if customers  
9 returned, that would be a different review, yes.

10 JUDGE HAWKENS: All right. The company's  
11 research revenue was based on Dr. Slaughter's current  
12 experience as the vice president of MSI Photogenics.  
13 Why is it unreasonable to rely on his experience and  
14 expertise for predicting research revenue?

15 MS. LIAN: In the application, the  
16 companies did provide some information about research  
17 funding. And in the application -- let me think.  
18 Hold on one second. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

At that point, the staff believes, well, I believe that they will not do any actions to obtain research funding after transaction has occurred. And, second, [REDACTED]

[REDACTED]

[REDACTED] So we have no way of knowing when or how the funding is going to come in.

JUDGE HAWKENS: The company's financial plan incorporates collection of fees to cover future spent fuel storage, as well as for purchase of new fuel.

MS. LIAN: Yes.

JUDGE HAWKENS: What is unreasonable about those plans?

MS. LIAN: Again, it goes back to the financial qualifications. They have not shown us sufficient customers will return for them to be operational for the period of license. And the fees collected for the spent fuel storage will depend on customers returning and reactor operating. So you can see we are in a weird situation that, yes, if it's operational, we are making money, we will not have a concern about spent fuel storage cost. But because we

1 have that concern and the company's proposed only  
2 decommissioning, that's why we raised the question  
3 about spent fuel storage cost because it is not  
4 covered in the decommissioning funding. That will be  
5 provided by the seller.

6 JUDGE HAWKENS: The company submitted  
7 historical financials for Aerotest for nine years of  
8 operation; is that correct?

9 MS. LIAN: Yes.

10 JUDGE HAWKENS: And you may have answered  
11 this already but if you'll do it again, why wasn't the  
12 submission of historical revenue for the reactor a  
13 sufficient basis to determine whether the company's  
14 revenue projections were based on plausible  
15 assumptions and forecasts?

16 MS. LIAN: Yes. Your Honor, I already  
17 previously stated that historic information would be  
18 useful if the reactor is still operating. At that  
19 point, we would have no reason to believe that those  
20 revenues would not continue. However, in this case,  
21 the company, Aerotest, has shut down for over two  
22 years, and we know it has no customers.

23 So the underlying assumption the customers  
24 will return, the fact that the companies did not  
25 provide sufficient information to demonstrate that it

1 may still reach revenue projection are unreasonable.

2 JUDGE HAWKENS: You stated the same data  
3 inspires revenue predictions was sufficient in the  
4 X-Ray Industry's license transfer application; is that  
5 correct?

6 MS. LIAN: Yes.

7 JUDGE HAWKENS: And if I understand you  
8 correctly from your prior answer, that was because, at  
9 that point, there was an existing customer base for  
10 Aerotest.

11 MS. LIAN: Right.

12 JUDGE HAWKENS: If X-Ray Industry's  
13 transaction had gone forward and the Aerotest reactor  
14 suddenly and unexpectedly lost its customer base, what  
15 would have been the alternative source for funding of  
16 operations and spent fuel storage?

17 MS. LIAN: Well, it's definitely a  
18 hypothetical question right now, but the answer --

19 JUDGE HAWKENS: But that's something you  
20 took into account, and maybe Ms. Simmons could answer  
21 it, as well, if she wishes.

22 MS. LIAN: Right. Well, assuming  
23 everything stayed the same, we would go back to the  
24 time where X-Ray Industry's transfer occurred, I mean  
25 application review occurred. X-Ray Industry actually



1 provided a funding agreement of -- can I say the  
2 number -- \$850,000 in case of unexpected shutdown or  
3 revenue shortage to cover the operating costs.

4 JUDGE HAWKENS: But that alone wouldn't  
5 provide for spent fuel storage until 2055.

6 MS. LIAN: That is correct. Ms. Simmons  
7 might have more information.

8 MS. SIMMONS: I think, as consistent with  
9 what the companies have testified to, it's not a  
10 requirement that we would look at spent fuel plans as  
11 a normal part of a license transfer unless there's  
12 some indication that there might be the specter of  
13 premature shutdown. That's consistent with power  
14 reactors, as well.

15 Ms. Lian is correct in that the X-Ray  
16 transfer, consistent with what Mr. Anderson explained,  
17 was an entirely different transfer. We had an  
18 operating reactor. We had a very heavily-capitalized  
19 parent company with a binding agreement from the  
20 parent company.

21 It is speculative to know what would  
22 happen if they entered into early shutdown. However,  
23 the fact that there was this additional support  
24 agreement would have provided a link to the parent  
25 company. So I believe that the NRC has various legal

1 opportunities to pursue, you know, additional  
2 financing in different circumstances.

3 JUDGE HAWKENS: Thank you. Did you  
4 contact any of Aerotest's prior customers to determine  
5 whether the company's projections were unreasonable?

6 MS. LIAN: I did not.

7 JUDGE HAWKENS: Do you have any  
8 information other than that provided by the companies  
9 as to the prices charged by other providers?

10 MS. LIAN: I do not have that information.

11 JUDGE HAWKENS: In your RAIs, you inquired  
12 about evidence of committed sources of funds, even  
13 though the companies indicated it did not run its  
14 business in this manner in the past and could not now  
15 obtain commitments, given the current shutdown status  
16 of the reactor. In the absence of committed funding,  
17 did the staff consider a license condition of any  
18 sort, or can you contemplate of any type of license  
19 condition that would cover that contingency?

20 MS. LIAN: No, we did not consider  
21 licensing condition. But before we answer the other  
22 part, I would think it's a mischaracterization that we  
23 only asked for committed source of funds. That was  
24 part of the request for additional information, but we  
25 did ask for any potential source of funds, as well.

1 MS. SIMMONS: As for license conditions,  
2 again, typically, we have these license conditions for  
3 license transfers, but, as Ms. Ghosh testified,  
4 typically, that's simply to verify that funding  
5 agreements or financial support agreements have been  
6 executed properly following the transaction and that  
7 the reason is because we can't, the staff can't defer  
8 its evaluation of findings until after an approval.  
9 We have to make the finding prior to the approval of  
10 the transfer, and then the license condition would  
11 have to be ministerial, simply a verification.

12 It is hypothetical, but, as I understand  
13 it, what has kind of been discussed is whether we  
14 could craft a ministerial license condition in the  
15 absence of sufficient sources of funds. It would be  
16 my professional opinion that that would be very  
17 challenging, given that there has been an insufficient  
18 level of specificity about sources of funds, in order  
19 to craft a very specific license condition.

20 JUDGE HAWKENS: In your revenue  
21 projection, you rejected the research revenue from MSI  
22 Photogenics because no evidence or documentation of  
23 specific grants were provided. Were you aware at that  
24 time that Dr. Slaughter was an officer of MSI  
25 Photogenics and was experienced in obtaining and

1 managing research funds and that this experience was  
2 relied upon at MSI Photogenics?

3 MS. LIAN: He include his position as an  
4 MSI VP in his CV. However, I don't recall him

5 [REDACTED]  
[REDACTED]  
[REDACTED]

8 JUDGE HAWKENS: Would it be reasonable for  
9 the companies to rely on his experience to provide

10 [REDACTED]  
11 based on what you know now?

12 MS. LIAN: His experience would definitely  
13 help. Again, however, our concern is the  
14 reasonableness of his revenue projection. We need to  
15 have some evidence for him to show us that the funding  
16 will be available. But at the end, if we look at  
17 bigger picture, the majority of the research, the  
18 funding is depending on the reactor being operational  
19 and providing service, radiography service, which is  
20 task one. If we have included the research fund  
21 identified by the companies in the applications,  
22 there's some of their research, plus our projection of  
23 the revenue that could be generated, is still  
24 significantly less than the projected annual operating  
25 cost of [REDACTED]

1 JUDGE HAWKENS: Let me just ask the  
2 question one more time. I want to make sure I got the  
3 right answer, which this is one that's susceptible of  
4 yes or no. Would it be reasonable for the companies  
5 to rely on [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED] [REDACTED]?

8 MS. SIMMONS: I think the companies could  
9 rely on it, but the question would be whether the NRC  
10 staff could rely on simply a title and position as a  
11 source of funds.

12 JUDGE HAWKENS: Did the staff ever ask him  
13 for additional information, saying this is not enough?

14 MS. LIAN: Yes.

15 JUDGE HAWKENS: For the research revenues?

16 MS. LIAN: Well, actually, we actually  
17 asked the question in more general terms. We asked  
18 the -- if you look at the Exhibit 24P, we did ask them  
19 to provide any source of fund and that would include  
20 research and training and even commercial services.  
21 And then we did have a public meeting, and we  
22 discussed those items with them, as well.

23 JUDGE HAWKENS: It appears that, from the  
24 safety evaluation, there wasn't a complete  
25 understanding in all the parties' minds as to what the

1 staff required further to satisfy the financial  
2 requirements. Would you agree with that? I'll  
3 retract that question. You can't look into their  
4 minds.

5 MS. LIAN: Right. But I can provide  
6 information that we asked for three separate requests  
7 additional information, a public meeting, and we were  
8 available by the phone, I mean by the phone when they  
9 requested. So we really have no indication that the  
10 companies did not understand our requirement.

11 MS. SIMMONS: And just to add to that,  
12 NUREG-1537 does specify, it's not a requirement but it  
13 does indicate that, if grants are available, that  
14 documentation would be provided.

15 JUDGE HAWKENS: You testified that the  
16 Aerotest reactor had [REDACTED] in 2011 while the reactor  
17 was shut down; is that correct?

18 MS. LIAN: Yes.

19 JUDGE HAWKENS: Did you ask the applicant  
20 what the source of this revenue was?

21 MS. LIAN: I could go back and answer that  
22 question in a different way. Again, we have requested  
23 multiple times for the company to provide us revenue  
24 projection and any documentation for them to support  
25 those projections. And when they provided this [REDACTED] in

1 their historic financial statement, there was no  
2 explanation of where that, we should say [REDACTED] come from  
3 because we know [REDACTED] is for the training.

4 And so, in a way, yes, we did ask for more  
5 information. But, again, just to bring back what I  
6 mentioned before -- I'll take it back. So we have no  
7 way of knowing if this extra [REDACTED] is a one-time revenue  
8 or is a recurring thing, so we could not have put that  
9 forward. In addition, even if we include that [REDACTED] in  
10 the totality of the potential revenue, it is still a  
11 lot less than the lowest annual operating cost of  
12 [REDACTED].

13 JUDGE HAWKENS: You concluded the total  
14 estimated cost for the first five years are  
15 approximately [REDACTED].

16 MS. LIAN: Yes.

17 JUDGE HAWKENS: And your total revenue,  
18 based on your calculations, was [REDACTED]  
19 approximately. And, thus, the revenue did not cover  
20 the operating costs?

21 MS. LIAN: That's correct. I do want to  
22 clarify that it's not, it is not what we believe the  
23 companies will make in year two to year five because  
24 we just don't have that kind of information. But it's  
25 really a summation for all the information that we

1 could gather and determine at the time of the review.

2 JUDGE HAWKENS: It's the company's  
3 position it not an appropriate comparison in light of  
4 the fact that the estimated cost is directly  
5 proportionate to the amount of services performed.  
6 How do you respond to that, that that's an  
7 inappropriate comparison?

8 MS. LIAN: Well, at the time -- well, we  
9 know that, at the time, 2011, the reactor was shut  
10 down and it still incurred about [REDACTED] of operating  
11 costs. So, yes, I agree that it's a variable cost  
12 associated with providing services. However, we have  
13 no basis to know, if the reactor is totally shut down,  
14 what the number would be. So at the time, all we had  
15 was [REDACTED]. That's during the reactor shutdown.

16 JUDGE HAWKENS: So that could well be an  
17 inappropriate comparison?

18 MS. SIMMONS: The staff -- I think what  
19 we're hearing today is that there's directly  
20 proportional reduction in costs based on the amount of  
21 service provided. I would characterize that as new  
22 information that we didn't have at the time of the  
23 application. So we didn't have that information to  
24 evaluate.

25 JUDGE HAWKENS: In your view, do you think



1 it would be worthwhile for the case to be remanded to  
2 the staff in light of the new and material information  
3 that's in the record to reconsider de novo in light of  
4 that new information, or is it the staff's position,  
5 which appears from some of their testimony, that it  
6 simply doesn't matter?

7 MS. LIAN: Well, I would say that the  
8 companies, to this day, still have not addressed our  
9 concern, which is the majority of customers will  
10 return. I understand the companies provided several  
11 statements on why they believe the customers will  
12 return. However, as I previously stated, the  
13 companies' advantage certainly is they're very  
14 attractive to customers, but we have other factors we  
15 still have to consider.

16 JUDGE HAWKENS: You mentioned relationship  
17 with their current provider. Other than that, what  
18 are the factors?

19 MS. LIAN: We also know that there's  
20 always a cost associated with transferring a change of  
21 supplier, whether it's time or monetary. And also, as  
22 of today, the reactor has shut down for four years.  
23 Even for some initial difficulty when you switch a  
24 supplier, we have no reason to believe that those  
25 difficulties still exist. So the current relationship

1 is really important because, again, a cost of  
2 switching suppliers and what the suppliers might do in  
3 response to Aerotest's strategy on pricing.

4 JUDGE HAWKENS: You didn't  
5 provide anything your decision that compared the  
6 potential costs of switching suppliers, did you?

7 MS. LIAN: No, I did not because the  
8 underlying assumption that we are evaluating is if the  
9 customers will return, and the best evidence would be  
10 from those customers that express interest in  
11 returning.

12 JUDGE HAWKENS: I don't have a lot of  
13 experience and no expertise in financial matters like  
14 this, but, as a run-of-the-mill consumer, to me, a

15 [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

16 MS. LIAN: You are not wrong in looking at  
17 it that way. However, there are factors to consider  
24 --  
25

1 JUDGE HAWKENS: I'm sorry to interrupt.  
2 I'll ask it a different way. Why does your concern  
3 about alleged relationship and alleged potential cost  
4 of returning, which, to me, seems to be a very heavy  
5 weight on this side, [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
6 [REDACTED] ?

7 MS. LIAN: I'll provide two reasons for  
8 that, and Ms. Simmons can put in to it. First, yes,  
9 the comparative advantage that Aerotest is proposing  
10 is very attractive to customers. The customers might  
11 return, but, at the same time, we don't know when and  
12 what level of revenue they're bringing in. So in that  
13 case, if we look at Nuclear Labyrinth as a  
14 newly-formed entity, it only has [REDACTED] working  
15 capital. So if the customers do not return in a  
16 timely manner to support, to cover the operating  
17 costs, then we will run into issues. So that's one.

18 JUDGE HAWKENS: And I hate to interrupt.  
19 Keep in mind what else you want to tell me, but  
20 Aerotest seemed to have built into their prediction --  
21 which predictions have to be based somewhat on  
22 speculation. There's nothing wrong with predictions  
23 in the economic sphere, but they tried to put in a  
24 conservatism of [REDACTED] of the lowest revenue in  
25 recent years. Why is that unreasonable?

1 MS. SIMMONS: It may not be unreasonable,  
2 but we don't have that information in sufficient  
3 detail to evaluate it. We've heard today that there's  
4 been a market analysis. And, yes, it's somewhat  
5 speculative. But if the staff were to re-review this  
6 with detailed information about pricing of other  
7 competitors, you know, if he's competing with  
8 university generators, they may not have the same  
9 price pressures as a commercial reactor.

10 So without that information before us at  
11 the time of this denial, we just didn't have that  
12 information to make a determination one way or  
13 another. And just simply to say, you know, a lot of  
14 this is based on the operability of the reactor, which  
15 even today is still in question.

16 JUDGE HAWKENS: I interrupted you, Ms.  
17 Lian. I didn't want to cut you off. Are you  
18 satisfied with your answer, or is there more you'd  
19 like to add?

20 MS. LIAN: Yes, I am. I might add more  
21 later.

22 JUDGE HAWKENS: All right. You stated  
23 that, without the results of the company's evaluation,  
24 there was still a possibility the reactor would incur  
25 future costs related to replacement of aluminum fuel

1 elements.

2 MS. LIAN: Yes.

3 JUDGE HAWKENS: Did you request the  
4 company submit the fuel evaluations it was performing?

5 MS. LIAN: I did not specifically request  
6 that.

7 JUDGE HAWKENS: Did you consider  
8 postponing your final decision on the application  
9 pending submission of the fuel evaluation so you could  
10 make an informed decision?

11 MS. LIAN: We considered at the time.  
12 However, based on our information specifically, even  
13 if we don't have any damaged fuel, they still have not  
14 provided sufficient evidence that their revenue  
15 projection is reasonable and can cover the operational  
16 costs.

17 JUDGE HAWKENS: So if I hear you  
18 correctly, in light of the new material evidence,  
19 there is a possibility that, upon review, the staff  
20 could conclude that Dr. Slaughter's analyses are  
21 correct and the core can restart and be fully  
22 operational?

23 MS. SIMMONS: Well, that would be a  
24 technical review. Certainly, as I think Ms. Lian was  
25 alluding to, in terms of the financial qualifications

1 review, there's still unanswered questions about the  
2 ability to make the five-year custom revenue  
3 projection showing and the spent fuel costs. For  
4 example, the support agreement provided by the seller  
5 has expired, so, you know, we really would be talking  
6 about a complete review.

7 JUDGE HAWKENS: The companies developed a  
8 financial plan that includes collection of spent fuel  
9 storage fee over the course of the extended 20-year  
10 license period and placing these fees in a trust to  
11 cover spent fuel management. Assuming the reactor  
12 were able to start up and prove fully operational, is  
13 there any basis for concluding the companies' plan is  
14 not based on plausible assumptions and reasonable  
15 forecasts?

16 MS. LIAN: Even if the reactor is  
17 operational, we still have concern about their revenue  
18 projection. So in that case --

19 JUDGE HAWKENS: All right. Let me --

20 MS. LIAN: -- we still have --

21 JUDGE HAWKENS: -- rephrase that.  
22 Assuming that their projections were correct about the  
23 [REDACTED] returning, is there any basis for  
24 concluding their plan for accruing funds for spent  
25 fuel storage is not plausible?

1 MS. LIAN: Based on that information  
2 alone, I have no reason to believe that that's not  
3 reasonable.

4 JUDGE HAWKENS: Let me ask counsel -- I'm  
5 about halfway done with my questions for these  
6 witnesses. I can charge right through, or we can take  
7 a break for lunch. I don't want people to be  
8 uncomfortable.

9 MS. UTTAL: I would ask that we take a  
10 break for lunch.

11 JUDGE HAWKENS: Do counsel for the  
12 companies have any objection to that?

13 MR. SILBERG: We don't, your Honor.

14 JUDGE HAWKENS: How much time would you  
15 like for lunch? It's about 12:45 now. One hour?

16 MS. UTTAL: Okay.

17 JUDGE HAWKENS: Counsel for the companies?  
18 We'll take a recess, reconvene in an hour at 1:45.  
19 Thank you. We're in recess.

20 (Whereupon, the above-entitled matter went  
21 off the record at 12:46 p.m. and went back  
22 on the record at 1:45 p.m.)

23 JUDGE HAWKENS: Ms. Lian and Ms. Simmons,  
24 please return to the witness box. Good afternoon.  
25 Are you ready to proceed?

1 MS. SIMMONS: Yes, sir.

2 MS. LIAN: Yes.

3 JUDGE HAWKENS: A reminder you both remain  
4 under oath and a reminder that most of the questions  
5 are framed in responses of yes or no. And if you'd  
6 endeavor to keep it to yes or no, if possible, we'd be  
7 grateful.

8 MS. LIAN: We'll try.

9 JUDGE HAWKENS: You testified the  
10 companies did not provide a detailed list of its  
11 opt-in customers between 2003 and 2010, did not  
12 provide a specific revenue breakdown per customer  
13 between that time period, and did not provide  
14 information indicating that many of their top-ten  
15 customers would have been customers of Aerotest for  
16 more than 20 years. Were you aware that Aerotest had  
17 been operating since 1966?

18 MS. LIAN: Yes.

19 JUDGE HAWKENS: Did you ask the companies  
20 for information indicating that many of their top-ten  
21 customers had been customers for more than 20 years?

22 MS. LIAN: I don't believe so.

23 JUDGE HAWKENS: You testified the details  
24 regarding pricing and Aerotest's competitors were not  
25 included in the application or the RAI responses. But



1 the companies did state in the [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

2 [REDACTED] [REDACTED] Did you have any information that  
6 contradicted Aerotest's representation?

7 MS. LIAN: We have no information on  
8 anything --

9 JUDGE HAWKENS: Not at that time?

10 MS. LIAN: Exactly.

11 JUDGE HAWKENS: Did you request more  
12 information and details regarding the pricing and  
13 Aerotest's competitors in support of Aerotest's  
14 assertions?

15 MS. LIAN: No.

16 JUDGE HAWKENS: Would this new information  
17 on competitor pricing, in combination with the new  
18 information on Aerotest's long history of customer  
19 service, had made a difference?

20 MS. LIAN: It would be hypothetical, but,  
21 knowing what I know today, we would still have  
22 concern. So I don't think it would make a difference.

23 MS. SIMMONS: Just to add to Ms. Lian's  
24 response, it's not necessarily true that all of these  
25 assertions made by the companies would necessarily pan

1 out. Competitors, of course, can always lower their  
2 prices in the event that a new participant enters the  
3 market. So a lot of this is speculative without doing  
4 further analysis.

5 JUDGE HAWKENS: You stated the information  
6 provided in the application, in particular written  
7 statements from past customers, is not supported by  
8 information such as the specific terms, pricing,  
9 quantities, timing, etcetera, in sufficient detail for  
10 the staff to rely upon for reasonable assurance. Is  
11 it reasonable to expect specific terms on pricing,  
12 quantities, and timing when neither the licensee or  
13 the customer knows when or if the reactor will resume  
14 operations?

15 MS. LIAN: In that content, it might not  
16 be possible to provide such information. But our  
17 regulation really asks us to evaluate the financial  
18 qualifications of a company. In that case, we will  
19 need sufficient detail and evidence to make our  
20 findings.

21 MS. SIMMONS: I think, given the  
22 companies' statements that the nature of their  
23 business makes it difficult, if not impossible, to  
24 obtain letters of intent or long-term contracts, the  
25 burden would be on the companies then to provide

1 something in the alternatives for the staff to rely on  
2 to make reasonable assumptions about revenue  
3 projections.

4 JUDGE HAWKENS: You state the staff cannot  
5 predict when the reactor would become fully  
6 operational and the companies did not provide evidence  
7 of the time frame that future business would be  
8 transferred back to the reactor after the license  
9 transfer. But didn't the company state they would  
10 spend the first year after license transfer restarting  
11 the reactor and that the reactor would be providing  
12 services in the second year after the license  
13 transfer?

14 MS. SIMMONS: This was their assertion;  
15 that's true.

16 JUDGE HAWKENS: You testified the  
17 additional information provided by the companies that  
18 gave a specific revenue breakdown per customer between  
19 2003 and 2010 would not have changed the staff's  
20 conclusion about financial qualification because past  
21 customer revenue was highly variable from year to  
22 year, which renders revenue projections even less  
23 certain. Isn't it true that variation in individual  
24 purchases is a reality in the neutron radiography  
25 business and, in particular, in Aerotest's history of

1 its neutron radiography business?

2 MS. LIAN: The information we know for  
3 sure at the time is they do not use long-term  
4 contracts. So we have no information on if the  
5 customer revenue has a wide range of variables or not.

6 JUDGE HAWKENS: And didn't Dr. Slaughter  
7 endeavor to take this into account by predicting only  
8 [REDACTED] of the lowest revenues in recent years  
9 would be assumed?

10 MS. SIMMONS: According to his testimony  
11 today, we have a little bit more information about why  
12 he used [REDACTED]. Of course, that wouldn't change  
13 the staff's conclusions in that we didn't feel that  
14 his overall revenue projections were going to be  
15 reasonable or were reasonably supported.

16 JUDGE HAWKENS: Do you have a view on what  
17 percentage would have been a reasonable and plausible  
18 predictor, if not [REDACTED]?

19 MS. LIAN: I don't think today, with all  
20 the information, we could have made any kind of  
21 prediction on what's reasonable.

22 MS. SIMMONS: I think also the notion that  
23 a single assumption about the percentage of customers  
24 that would return would not be consistent with the  
25 nature of the staff's review, which is based on the

1 entire set of facts and circumstances. Although one  
2 single element of an assumption may be correct, we  
3 can't ignore the fact that there's uncertainty about  
4 the operability of the reactor. We still have  
5 uncertainty about the funding for spent fuel and all  
6 of the other factors that are involved in the staff's  
7 review. It's based on the totality of facts and  
8 circumstances.

9 JUDGE HAWKENS: That's true. There seem,  
10 in my view, to be two discrete reasons for denial: the  
11 question about the ability to operate and have  
12 sustained operations for the renewal period, which is  
13 one reason; the second reason being their ability to  
14 demonstrate in the first five years compliance with  
15 the financial requirements.

16 So I think you have to put one aside.  
17 It's true they're both independent reasons. But when  
18 we're talking about their ability to demonstrate first  
19 five years they have sufficient revenues for the cost,  
20 we have to put that aside from the ability of the  
21 reactor to start up successfully and have sustained  
22 operations. I think you indicated earlier, as a  
23 technical standpoint, that's beyond your expertise, in  
24 any event. That was a call made by Mr. Adams, which  
25 he'll testify to a little bit later.

1 MS. SIMMONS: True. Okay. So even for  
2 the five-year cost and revenue showing that's required  
3 by the regulations, the regulation does say for the  
4 period of the license. So the five year is what the  
5 Commission has required to make that showing.

6 JUDGE HAWKENS: And that there's a five  
7 year, there's a presumption they'd be able to  
8 continue.

9 MS. SIMMONS: That's correct. And, again,  
10 I think, just to get back to the notion of this  
11 singular fact of the [REDACTED] of customers from 2009  
12 returning, even in that more limited context, without  
13 information about, very specific information about the  
14 market, the fact that a university reactor does not  
15 have the same competitive pressures and can lower  
16 their prices, we don't know if the market is the same  
17 as it's been or it will continue to be the same for  
18 the next five years. The assumptions underlying those  
19 revenue projections, the staff was unable to find  
20 those reasonable.

21 JUDGE HAWKENS: You pointed out the  
22 company had [REDACTED]; is  
23 that correct?

24 MS. LIAN: Yes.

25 JUDGE HAWKENS: That was also true when

1 you approved the X-Ray Industry's license transfer; is  
2 that correct?

3 MS. SIMMONS: That's true.

4 JUDGE HAWKENS: Did you request an  
5 explanation from the companies for the decline in  
6 revenue in 2009?

7 MS. SIMMONS: Not specifically, no.  
8 However, I believe that they provided information  
9 that, due to the recession, that was an anomaly.

10 JUDGE HAWKENS: All right. And it appears  
11 the revenue was, in fact, turning around in 2010; is  
12 that correct?

13 MS. SIMMONS: No, I would not agree with  
14 that statement. The revenue, as in NRC026P, in 2010,  
15 okay, the reactor shut down later in the year, but  
16 there was negative -- well, the staff looks at the  
17 bottom line, and we see that [REDACTED] [REDACTED] [REDACTED]

[REDACTED] [REDACTED] [REDACTED] And I'm not sure if that's  
19 responsive to your question, your Honor.

20 JUDGE HAWKENS: You may not have the  
21 information at your fingertips, but it appears in 2010  
22 the sales were higher than in 2009. But as you  
23 indicated, the reactor was forced to shut down in  
24 October; and, therefore, the companies were paying for  
25 operating costs without the revenue for the last two

1 and a half months of the year.

2 MS. SIMMONS: That's correct, your Honor.

3 JUDGE HAWKENS: You state the NRC staff  
4 puts great weight on the more recent financial and  
5 performance information provided in the application;  
6 is that correct?

7 MS. LIAN: Yes.

8 JUDGE HAWKENS: That puts an applicant,  
9 like the companies, where the reactors have been shut  
10 down for the past four years, in a very difficult  
11 situation. Would you agree?

12 MS. LIAN: Yes.

13 JUDGE HAWKENS: How would you respond to  
14 the assertion that this, effectively, ignores nearly  
15 all the historical financial performance of Aerotest?

16 MS. LIAN: I would like to clarify that.  
17 We did not ignore the historical financial  
18 information. We used this historical financial  
19 information to evaluate four different occasions. I  
20 don't know if you want to go into specifics, but, at  
21 the end, like I provided earlier, the fact that the  
22 reactor is not operating has no base of customers. We  
23 have to take that into consideration and consider only  
24 recent financial information.

25 MS. SIMMONS: Just to add to Ms. Lian's



1 response, I think that Aerotest is somewhat unique as  
2 a Part 50 licensee. It is almost singularly reliant  
3 on outside revenue. That's not true of the other  
4 commercial nonpower reactors that have the backup of  
5 very -- Dow Chemical, for example -- very  
6 highly-capitalized corporations.

7 As to the importance of historical  
8 financial information generally, I would just say  
9 that, you know, companies are audited every year  
10 because business conditions and economic conditions  
11 can change very rapidly. So historical financial  
12 information is important, but it can't -- we see from  
13 the operating experience of Aerotest, there was a  
14 shutdown in 2010, and we have seen other situations  
15 where there have been unexpected significant costs  
16 that might occur, and we just have to make sure that  
17 we're protecting public health and safety and allowing  
18 for margin in their financial plan to accommodate  
19 that.

20 JUDGE HAWKENS: Thank you. It's true the  
21 condition has used license conditions to address  
22 situations where the licensee has no current  
23 recommitted funds; is that correct? For example, in  
24 PFS and LES?

25 MS. SIMMONS: That's correct.

1 JUDGE HAWKENS: You stated you needed  
2 independent information to determine the financial  
3 condition of customers to assess their ability to  
4 enter the business transaction with the companies; is  
5 that correct?

6 MS. SIMMONS: Yes, I think that's  
7 consistent with our testimony.

8 JUDGE HAWKENS: And where in the  
9 regulation is that required? And I'll say I believe,  
10 in your testimony, you said it was required by Section  
11 50.33(f)(4)(2). Do you recall that?

12 MS. SIMMONS: There's regulation at 10 CFR  
13 50.33(f)(4) and (f)(5). Both of them have been  
14 described by the Commission as something called a  
15 safety valve. If we don't have enough information,  
16 the staff, particularly in the area of a newly-formed  
17 entity which is specific to 10 CFR 53 (f)(4), because  
18 Nuclear Labyrinth is a newly-formed entity, we ask  
19 additional information because they have no operating  
20 history upon which the staff can rely to make its  
21 finding. I think that's the component of the  
22 testimony that you're --

23 JUDGE HAWKENS: So even absent an explicit  
24 regulation that authorizes you to request that  
25 information, you're saying that the regulations, in

1 general, pursuant to the authority they can throw upon  
2 you, give you that discretion to require this  
3 information?

4 MS. SIMMONS: Absolutely.

5 JUDGE HAWKENS: When in the past has a  
6 staff, to your knowledge, required independent  
7 information on the financial condition of an  
8 applicant's customer?

9 MS. SIMMONS: I can speak to an example.  
10 We don't have a lot of example from nonpower reactors.  
11 Many of the nonpower reactors are funded by the  
12 university, so it's a different context to make a  
13 finding. However, for power reactors, we have  
14 required examples of contracts that they have in  
15 place. For X-Ray Industry, of course we have the  
16 operating history and no evidence that that would just  
17 be discontinued, but we did have to look at the draft  
18 support agreement, for example, in order to help us  
19 make our finding for the X-Ray Industry's license  
20 transfer.

21 So I don't think independent verification  
22 is necessarily defined in our regulations. But that  
23 is certainly something that assists the staff in  
24 finding reasonable assurance.

25 JUDGE HAWKENS: And as you were

1 describing, Ms. Simmons, the other example, I didn't  
2 hear a precise example where you asked for financial  
3 condition of an applicant's customers.

4 MS. SIMMONS: I just want to clarify a  
5 little bit about -- I just want to make sure I'm  
6 answering your question, your Honor. I think that in  
7 there there's the question about license conditions.  
8 Is that the nature of your question about the examples  
9 used for license conditions?

10 JUDGE HAWKENS: No, this was just you said  
11 you needed independent information to determine the  
12 financial condition of customers to assess their  
13 ability to enter into business transactions with  
14 Aerotest, and I was asking can you provide an example  
15 in the past where the staff has required independent  
16 information on the financial condition of potential  
17 customers.

18 MS. SIMMONS: I think that what I can say  
19 is that we've asked for independent financial  
20 information on any entities who are providing  
21 financial support. For example, X-Ray Industries  
22 itself, we required their long-term financial  
23 information because they were providing a potential  
24 source of funds. So that would be an example of what  
25 we call a source of funds and looking for something

1 independent to verify that.

2 JUDGE HAWKENS: Okay. You stated it's not  
3 unreasonable to believe that past customers have taken  
4 their business elsewhere.

5 MS. LIAN: Yes.

6 JUDGE HAWKENS: Did the customers ever  
7 assert their customers had not gone elsewhere?

8 MS. LIAN: Can you repeat that question?

9 JUDGE HAWKENS: The customers -- I'll make  
10 it in the affirmative. The customers never asserted  
11 their customers had gone elsewhere, had they?

12 MS. LIAN: There was an indication on the  
13 statement of interest from two customers that they're  
14 using somebody else.

15 JUDGE HAWKENS: Right. In other words --

16 MS. LIAN: So they have --

17 JUDGE HAWKENS: -- you assumed their  
18 customers had gone elsewhere?

19 MS. LIAN: Yes, and it's a logical  
20 assumption that if a customer needs a service and  
21 Aerotest is not providing, they would have gone  
22 somewhere else.

23 JUDGE HAWKENS: The companies also stated  
24 they acknowledged that customers have gone elsewhere,  
25 and [REDACTED]

1

[REDACTED]

2

[REDACTED]

3

[REDACTED] Did you have any reason not to believe that representation by the companies?

4

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MS. LIAN: Well, it's an assertion made by the companies, whether or not we believe it. We really need supporting document for that.

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JUDGE HAWKENS: Again, why isn't it plausible? I understand that you wanted supporting documents, but why is not plausible to conclude that a previous customer would return to a former supplier with whom it had good relations for 10 or 20 years who provided cheaper and quicker services?

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MS. LIAN: I believe we kind of answered that question, but maybe we can summarize it and Ms. Simmons can add to it. Again --

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JUDGE HAWKENS: I'm not asking you to repeat the answer. We've addressed this. We probably will have several more questions that implicate it, so if you could just summarize it. And I'll ask it again. Why is it not at least plausible to conclude that a previous customer would return to a supplier with whom it had satisfactory relations for decades who provided cheaper and quicker services?

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MS. SIMMONS: It's not necessarily

1 implausible in a vacuum. However, given that these  
2 entities may have other factors that we've enumerated,  
3 we can't rely on that fact alone to make our finding.

4 JUDGE HAWKENS: You stated the staff  
5 requested the companies provide a support agreement  
6 for six months of operation and maintenance, in  
7 addition to the 12-month funding agreement with  
8 Autoliv; is that correct?

9 MS. LIAN: I think so, yes.

10 JUDGE HAWKENS: And you may not remember  
11 without looking at the request for additional  
12 information, but the RAI did not use the words "in  
13 addition to." It requested draft financial support  
14 agreement between Nuclear Labyrinth and Aerotest to  
15 cover operations and maintenance costs for a period of  
16 six months and provide evidence of Nuclear Labyrinth's  
17 ability to provide the amount stated in the agreement.

18 MS. LIAN: Give us one second, and we can  
19 look at that.

20 MR. SILBERG: Excuse me, your Honor. So  
21 we can follow, what RAI is that and which RAI number  
22 is that?

23 JUDGE HAWKENS: Let me -- try NRC Exhibit  
24 024P at two.

25 MR. SILBERG: Thank you.

1 MS. SIMMONS: Could you repeat your  
2 question, your Honor?

3 JUDGE HAWKENS: You stated the NRC staff  
4 requested the companies provide a support agreement  
5 for six months of operation and maintenance, in  
6 addition to the 12-month funding agreement with  
7 Autoliv. And the question is did the RAI use the  
8 words "in addition to?"

9 MS. SIMMONS: Oh, I see. You're on page,  
10 just to clarify, NRC024P, page two.

11 JUDGE HAWKENS: Correct.

12 MS. SIMMONS: Okay. The final chapter or  
13 the final paragraph here. To clarify that RAI, your  
14 Honor, the RAI B refers to two different things. The  
15 first sentence is consistent with the staff's practice  
16 of asking for additional financial assurance. And the  
17 second sentence is, to the best of my recollection, is  
18 that Nuclear Labyrinth, oh, is some draft contract  
19 about their ability to provide anything that would be  
20 provided, the financial support for six months.

21 JUDGE HAWKENS: Did the companies comply  
22 with that request by providing the requested support  
23 agreement and source of funds being the [REDACTED]  
24 transferred from Autoliv?

25 MS. LIAN: Yes, that's the funding



1 agreement it provided, [REDACTED] from the seller.

2 JUDGE HAWKENS: You stated the revenues  
3 from research without an operational reactor could not  
4 cover spent fuel management costs. Did the companies  
5 ever state it was their intent that revenues from  
6 research alone would cover spent fuel management  
7 costs?

8 MS. LIAN: I might have to -- my  
9 recollection is the companies stated that they can  
10 still continue to operate, generating revenue after  
11 the reactor is shut down and decommissioning. As far  
12 as we know, the commercial services cannot be  
13 continued without an operating reactor, so that leaves  
14 them with only training and research. And in part,  
15 only part of the research can be done without the  
16 reactor.

17 JUDGE HAWKENS: Did you ever consider a  
18 license condition to address the circumstance of the  
19 reactor's inability to start up or have sustained  
20 operations?

21 MS. SIMMONS: No, we didn't consider such  
22 a license condition, nor was it requested.

23 JUDGE HAWKENS: That concludes my  
24 questions for now. Do you have anything you'd like to  
25 follow up on relating to any question I asked?

1 MS. SIMMONS: I think, you know, I think,  
2 your Honor, we'd just like to say that the staff's  
3 analysis was really based on the totality of facts and  
4 circumstances. A lot of the discussion today has been  
5 on some of the very particular elements of the review,  
6 and it would not be accurate to characterize the  
7 staff's financial qualifications finding on any  
8 particular element that may or may not be supported.

9 But in its entirety, a number of factors,  
10 the uncertainty about the reactor, the uncertainty  
11 about the funding for spent fuel, the inability to  
12 meet the regulation which is a showing of five-year  
13 cost and revenue projections that are reasonable, you  
14 know, those were the factors that were the basis of  
15 our conclusion.

16 JUDGE HAWKENS: Thank you. You may step  
17 down. Did counsel for the companies have any -- oh,  
18 excuse me -- counsel for the NRC staff have anything  
19 they'd like to add to fill in, based on the questions  
20 I asked the witnesses?

21 MS. UTTAL: No.

22 JUDGE HAWKENS: Thank you. Mr. Adams,  
23 please step forward. Are you ready, sir?

24 MR. ADAMS: I'm ready, your Honor.

25 JUDGE HAWKENS: All right. And a

1 reminder, sir, you remain under oath. Your testimony  
2 states the Aerotest reactor core typically consists of  
3 about 85 fuel elements.

4 MR. ADAMS: At the time the reactor was  
5 shut down, yes.

6 JUDGE HAWKENS: And what was the basis for  
7 that number? Was it just historical --

8 MR. ADAMS: That was based on what was  
9 actually in the core.

10 JUDGE HAWKENS: Actually in the core.  
11 Thank you. Did you review historical records to  
12 determine whether the Aerotest core is operated with  
13 fewer fuel elements?

14 MR. ADAMS: Yes.

15 JUDGE HAWKENS: And what was the result of  
16 that review?

17 MR. ADAMS: Over history, the number of  
18 elements in the reactor had varied with a core down,  
19 somewhere down in the sixty-some element range on  
20 initial startup.

21 JUDGE HAWKENS: Do you believe the number  
22 of fuel elements used in the core can change depending  
23 on fuel management strategies, such as changing where  
24 the fuel elements are placed?

25 MR. ADAMS: Yes.

1 JUDGE HAWKENS: Do you agree the number of  
2 fuel elements used in the core can change based on the  
3 enrichment and burn-up of the fuel elements?

4 MR. ADAMS: Yes.

5 JUDGE HAWKENS: Do you agree the stainless  
6 steel clad fuel elements have a higher U-235  
7 enrichment than the aluminum fuel elements?

8 MR. ADAMS: It's not enrichment, your  
9 Honor. It's the density of the fuel. There's more  
10 uranium in the stainless steel elements than the  
11 aluminum fuel elements initially.

12 JUDGE HAWKENS: All right. Thank you.  
13 The companies stated they were evaluating the impacts  
14 of the damaged fuel and the transaction would not  
15 close if there were limitations on the ability of the  
16 reactor to operate. Did you request additional  
17 information on that evaluation, such as a report or  
18 copy of the evaluation, to remove the alleged  
19 uncertainty regarding the impact of the damaged fuel  
20 on operations?

21 MR. ADAMS: There was an RAI that asked  
22 the impact of the damaged fuel, and the answer to that  
23 RAI was that a report would be provided in March of  
24 2013.

25 JUDGE HAWKENS: When was that report

1 provided?

2 MR. ADAMS: The report was not provided.

3 JUDGE HAWKENS: Has Dr. Slaughter provided  
4 in this proceeding a copy of that report?

5 MR. ADAMS: Dr. Slaughter has provided  
6 additional information. I can't tell you if that was  
7 the report.

8 JUDGE HAWKENS: Did you ever consider  
9 conditioning the license transfer on the outcome of  
10 that evaluation?

11 MR. ADAMS: No.

12 JUDGE HAWKENS: Why is that?

13 MR. ADAMS: At the time the license  
14 transfer was denied, all we knew was that there was  
15 damaged fuel. The commitment that was made in  
16 response to the RAI to provide a report was not, the  
17 report was not provided. Therefore, there was really  
18 no basis to put a license condition in place.

19 JUDGE HAWKENS: You testified regarding  
20 the potential causes for the swelling and the cracked  
21 cladding; is that correct?

22 MR. ADAMS: That is correct.

23 JUDGE HAWKENS: And I think you also  
24 acknowledged that your testimony is speculative and  
25 can't be confirmed in the absence of additional

1 analyses; is that correct?

2 MR. ADAMS: That is correct.

3 JUDGE HAWKENS: Has the staff performed  
4 any independent assessment of whether the licensee has  
5 enough fuel to operate at a length of time for which  
6 it will have enough fuel to operate?

7 MR. ADAMS: Yes and no. First off,  
8 there's a question of what does operate mean? From  
9 our point of view, there's three aspects to successful  
10 operation. One is that the reactor core that's  
11 designed is safe. The other one is that the reactor  
12 core that's designed can meet its design power level.  
13 And the third is that the reactor can operate, in this  
14 case, for the term of the license.

15 JUDGE HAWKENS: So those are the three  
16 aspects that a staff's assessment --

17 MR. ADAMS: Yes. There was --

18 JUDGE HAWKENS: -- you performed the  
19 independent assessment on --

20 MR. ADAMS: I did not perform the  
21 independent assessment because, at the time of the  
22 license transfer denial, that information was not  
23 provided by the companies.

24 JUDGE HAWKENS: Is it true that the  
25 purpose of Dr. Slaughter's core design analysis was to

1 address the staff's assertion that there was  
2 uncertainty as to whether or not there would be  
3 sufficient fuel in the core to support the companies'  
4 financial qualification analysis?

5 MR. ADAMS: Yes.

6 JUDGE HAWKENS: Is it also true the level  
7 of assurance the Commission finds reasonable to  
8 require regarding a licensee's ability to meet  
9 financial obligations is less than the high assurance  
10 the Commission requires regarding the safety of  
11 reactor design, construction, and operation?

12 MR. ADAMS: I see that to be a financial  
13 question to be addressed by the financial experts, but  
14 my understanding is yes.

15 JUDGE HAWKENS: In light of that, was it  
16 unreasonable to expect the companies would submit  
17 benchmarking of the model quality assurance measures  
18 and a safety analysis in response to an assertion by  
19 the staff that there was uncertainty regarding whether  
20 there was sufficient fuel to operate the reactor and  
21 how long it could operate, given that this was in the  
22 context of a financial qualification requirements  
23 inquiry?

24 MR. ADAMS: I was looking at the safety of  
25 the core and the ability of the core to perform the

1 functions of an operational reactor core.

2 JUDGE HAWKENS: So you were looking at it,  
3 principally, with your technical hat on, as opposed to  
4 wearing your financial qualifications hat?

5 MR. ADAMS: I don't believe I own a  
6 financial qualifications hat.

7 JUDGE HAWKENS: Thank you. All right.  
8 Can you cite to any cases where the staff or the  
9 Commission has required the information provided to  
10 establish financial qualifications be subject to  
11 quality assurance measures, such as the types of  
12 benchmarking and technical models that you are looking  
13 for here?

14 MR. ADAMS: I am not aware of that, but  
15 this is the first time I've come across a proceeding  
16 like this.

17 JUDGE HAWKENS: You stated that Dr.  
18 Slaughter's proposed core design appears reasonable;  
19 is that correct?

20 MR. ADAMS: That is correct. But let me,  
21 let me add to that. Reasonable related to just the  
22 aspect can the core reach its operational power. The  
23 company has provided no information to allow me to  
24 make any determinations that the core could be  
25 operated safely, nor do I believe there's sufficient



1 information to allow me to say that the core would be  
2 able to run through the end of the renewed license  
3 term of 2035.

4 JUDGE HAWKENS: For purposes of giving you  
5 that assurance in the context of this license transfer  
6 application, you have drafted licensing conditions to  
7 satisfy those concerns?

8 MR. ADAMS: Given the information that was  
9 available at the time the license transfer was denied,  
10 I believe not.

11 JUDGE HAWKENS: Is it conceivable that  
12 now, given the additional information that the  
13 companies have presented, that you could?

14 MR. ADAMS: At this point, I don't believe  
15 so because there is still a large amount of  
16 information that's missing and the license conditions  
17 I think can't be a substitute for the RAI question and  
18 answer process that will allow the staff to gather the  
19 technical information they need to make the  
20 determinations.

21 JUDGE HAWKENS: Is it correct the staff  
22 does not require every change in core design, does not  
23 review every change in core design used at a research  
24 reactor?

25 MR. ADAMS: That is partially true. So to

1 make a change in a core design, it's more complicated  
2 than Dr. Slaughter's testimony of you keep putting  
3 cores on the good plate until you find one that seems  
4 to work. Any changes made to the reactor have to be  
5 shown to be safe.

6 There's several ways a licensee can do  
7 that. The licensee can submit a license amendment  
8 application to the staff that the staff would review  
9 and approve the application, and the licensee can also  
10 attempt to use the regulations in 10 CFR 50.59, which  
11 allows the licensee to make changes to the reactor  
12 without prior NRC approval if the changes don't  
13 involve a change to the license or technical  
14 specifications and the change has to be made and  
15 successfully go through the 50.59 questions. And even  
16 in that case, a case of a 50.59 change, there is an  
17 inspection review afterwards to make sure that the  
18 regulations were followed.

19 JUDGE HAWKENS: Do you have any basis to  
20 conclude that a license amendment is required here?

21 MR. ADAMS: In my testimony, I said that  
22 a license amendment may be required. That was based  
23 on the significance of the change from the current  
24 operating core to the proposed operating core, changes  
25 in fuel arrangement, the size of the core, the

1 movement of control rod position in the core, the  
2 concentrating of the higher weight percent stainless  
3 steel fuel elements in the middle of the core. That  
4 is a lot of changes to be made in one core. Dr.  
5 Slaughter testified that there was something like 80  
6 changes made over the life of the core, but I would  
7 guess that those were very gradual changes. This is  
8 a very significant change which has a lot of safety  
9 aspects that need to be considered.

10 JUDGE HAWKENS: So it's conceivable a  
11 license amendment could be required?

12 MR. ADAMS: It is, it is, I think, very  
13 conceivable a license amendment could be required.

14 JUDGE HAWKENS: You stated you believe the  
15 power that would be produced in the maximum fuel  
16 element in the proposed core is greater than the power  
17 that was previously produced in the maximum fuel  
18 element in the current core. Do you recall that?

19 MR. ADAMS: I recall that. Based on the  
20 limited information that was provided in the  
21 testimony, that is a possible conclusion.

22 JUDGE HAWKENS: You did not perform  
23 calculations to verify the statement?

24 MR. ADAMS: I did not. This was, again,  
25 information that was provided after the denial of the

1 license transfer. It was not an application that  
2 would be subject to the staff's review and scrutiny.  
3 And before I would do that type of review, I would  
4 basically go back to the applicant with a series of  
5 RAIs to provide a lot more information. Frankly, at  
6 that point, there is not sufficient information for me  
7 to do an independent review even if I wanted to.

8 JUDGE HAWKENS: To your knowledge, is  
9 there a limit for the power produced in the maximum  
10 fuel element in the Aerotest safety analysis report or  
11 NRC operating license or technical specifications?

12 MR. ADAMS: I don't know the answer to  
13 that question.

14 JUDGE HAWKENS: You stated that, to get  
15 the longest life out of the new fuel, the new fuel is  
16 normally introduced at the outside of the core and  
17 then gradually moved to the center; is that correct?

18 MR. ADAMS: That's correct.

19 JUDGE HAWKENS: Could you tell me the  
20 basis for that statement?

21 MR. ADAMS: Well, there's a lot of choices  
22 that you have to make when you design a core. And as  
23 a reactor engineer, I dealt with those choices and  
24 made those choices. So you can design a core to carry  
25 out a number of different goals. The core that Dr.

1 Slaughter designed, the goal was to allow the reactor  
2 to reach its power level and introduce a usable flux.  
3 To do that, he had to commit the new fuel to the  
4 center of the core. And you can see, the stainless  
5 steel in the center of the core, that would be the  
6 part of the core that would be producing the most  
7 power, would run the hottest, and that part of the  
8 core would burn more fuel than the rest of the core.

9 If you keep doing that, eventually you're  
10 going to end up with a number of medium burnt-up fuel  
11 elements that you then start compensating for by  
12 adding more fuel elements to the core and, over time,  
13 the core grows larger and larger to produce the same  
14 power. You saw it in the difference between the  
15 85-element core that Aerotest had when they shut down  
16 and the core that Dr. Slaughter designed. Both those  
17 cores were producing the same amount of power, only  
18 the one core needed a lot more fuel elements because  
19 of the distribution of the fuel elements and the power  
20 produced by the fuel elements.

21 JUDGE HAWKENS: There's nothing in the NRC  
22 license requirements or regulations or the technical  
23 specs that prohibit Dr. Slaughter's approach, is  
24 there, in the core design?

25 MR. ADAMS: No.

1 JUDGE HAWKENS: You stated, I believe,  
2 that the MCNP5 code calculation is not sufficient to  
3 demonstrate that it's reasonable to assume that the  
4 proposed core will achieve operable power levels; is  
5 that correct?

6 MR. ADAMS: That is correct. However,  
7 when I made that statement, the information I had in  
8 the testimony was different than the information that  
9 was presented later on in the rebuttal testimony. At  
10 the time I made that statement, based on the  
11 testimony, I was under the impression that the only  
12 fuel available to Dr. Slaughter was the fuel that was  
13 committed to the core.

14 JUDGE HAWKENS: In Dr. Slaughter's  
15 rebuttal testimony, he provides an analysis showing  
16 that there is significant excess U-235 loading in the  
17 core, even after 20 years of operation; is that  
18 correct?

19 MR. ADAMS: That's his assertion, yes. I  
20 am not -- the information and the way it was  
21 presented, it was not sufficient for me to come to a  
22 conclusion if I agree with that statement or not. And  
23 this would be a subject of additional RAIs if the  
24 staff is doing the licensing review.

25 JUDGE HAWKENS: His burn-up calculation,

1 you have not done an independent assessment of it  
2 because there has not been sufficient information  
3 provided for you to do that?

4 MR. ADAMS: Yes. Again, this was  
5 information that came after the license transfer was  
6 denied, so this is the first time I've seen this  
7 information. Also, it was a calculation based on  
8 historical burn-up and grams of uranium in certain  
9 parts of the core compared against 1964 grams of  
10 uranium, which was not an easy argument to follow.  
11 However, you know, that argument has to be looked at  
12 very carefully. The best way to go about this would  
13 have been to do the calculations to age the core to  
14 see how the burn up on the core went to see how the  
15 fuel elements would be added.

16 Reactor uses uranium. In, I think, Dr.  
17 Slaughter's testimony, he estimated about 14 grams a  
18 year. That 14 grams is used throughout the entire  
19 core. It's not like an automobile, at the end of the  
20 year you can top off the fuel tank and you're full  
21 again. To replace those 14 grams, you have to add  
22 individual fuel elements, which would be the aluminum  
23 fuel elements, and you're restricted to where you can  
24 add them in the core because of open core positions.

25 So because a certain fuel element has a

1 certain number of grams, that's a necessary condition.  
2 If you don't have enough grams of fuel, it doesn't  
3 matter how you arrange them. However, it's not  
4 sufficient. The other thing to consider is the effect  
5 of adding fuel has to the core, the reactivity that's  
6 added to the core by the fuel. There was not  
7 sufficient information in Dr. Slaughter's rebuttal  
8 testimony for me to be able to confirm the statements  
9 that were made about sufficient fuel, and also that  
10 also depends on the issue of will the aluminum fuel  
11 last the lifetime of the core, given the significant  
12 amount of fuel elements that we saw fail?

13 So it's two issues. Is there enough  
14 uranium there? How is uranium added to the core as  
15 the core ages? And will there be sufficient uranium  
16 to go forward in the future if additional fuel fails?  
17 I'm sorry I'm not giving you yes or no answers.

18 JUDGE HAWKENS: No, no, I understand.  
19 That was a difficult question to provide a yes or no  
20 answer to and let it go at that. But Dr. Slaughter  
21 has provided a great deal of information as to a new  
22 core design, and he represents his burn-up  
23 calculations suggest with high probability there's  
24 sufficient fuel to operate the core, and Aerotest  
25 operations also has financial provisions in place to



1 buy new fuel periodically after it becomes available  
2 in 2017.

3 If you had all that information available  
4 to you, would that have made a difference in your  
5 initial determination?

6 MR. ADAMS: Again, if they were able to  
7 submit information that we would find acceptable, if  
8 they were to make a case that the core meets all the  
9 safety requirements from a hydraulic analysis,  
10 accident analysis, if all that could be shown, I agree  
11 that there is, at least initially, enough fuel  
12 available to run the reactor. The more significant  
13 question moving forward is what is the future of the  
14 aluminum fuel elements, given the substantial amount  
15 of elements that have failed in the past? And  
16 although I think that you can make a reasonable  
17 assumption as to why that fuel failed -- you know, why  
18 it failed absolutely is not known -- nowhere in the  
19 companies' testimony did they tell me that they were  
20 able to predict the past fuel failures or they could  
21 predict future fuel failures.

22 So if all that information could be given  
23 to us and we could review it and agree, then many of  
24 the issues surrounding the operability of the reactor  
25 moving forward, you know, would be settled.

1 JUDGE HAWKENS: If that were the only  
2 issue, putting aside financial qualification  
3 requirements, the ability of the reactor to start up,  
4 have sustained operations and sufficient fuel, if that  
5 was a requirement for authorizing the license  
6 transfer, would you, as the crew chief for the  
7 technical group, say let's work with the applicant and  
8 make this determination and, based on that  
9 determination, we'll determine whether to authorize  
10 the license transfer?

11 MR. ADAMS: I don't think that's an  
12 unreasonable statement.

13 JUDGE HAWKENS: So if we went forward, if  
14 the Commission were to go forward step by step with  
15 this, and I'm asking this, I'm thinking out loud, but,  
16 ultimately, the question to you, as the expert, would  
17 it make sense to make that determination, that  
18 technical determination first because that's critical  
19 to the financial qualification, then satisfying those  
20 requirements? If you don't operate and you don't  
21 operate for the renewal period, you're not going to  
22 have the funding necessary for operations or for spent  
23 fuel. So the first step is to determine the  
24 operation, sustained operation, and sufficient fuel?

25 MR. ADAMS: If the reactor cannot operate,

1 you can't authorize services, you cannot get revenue.  
2 But, again, I believe the most significant issue of  
3 the technical issues is what's going to happen in the  
4 future to the aluminum clad fuel if we decide the  
5 reactor could restart? The number of fuel elements  
6 that failed is not a good, is not a good omen for the  
7 remaining elements moving forth into the future.

8 JUDGE HAWKENS: But I don't hear you  
9 ruling out the possibility that the staff had the  
10 tools and the means to work with Aerotest to make that  
11 determination.

12 MR. ADAMS: We would be -- I don't see any  
13 reason why we wouldn't be willing to move forward and  
14 have those discussions. At the end of the day, if we  
15 would come to agreement on the technical issues, I  
16 can't tell you that answer.

17 JUDGE HAWKENS: I understand. Dr.  
18 Slaughter testifies that core loading and surveillance  
19 will be necessary after the license transfer to  
20 confirm the results of his analyses. Is it true that  
21 all reactor licensees perform physics testing using  
22 site-specific approach to critical procedures to  
23 perform -- excuse me. Let me back up. Isn't it true  
24 that all reactor licensees perform physics testing  
25 using site-specific approach to critical procedures to

1 confirm that the core operates as designed?

2 MR. ADAMS: I can only answer you giving  
3 my knowledge of research reactors. That is a true  
4 statement that we would expect licensees to have a set  
5 of procedures for performing the critical experiments,  
6 the attributes that would need to be measured during  
7 that critical experiment.

8 I'll also add that true critical  
9 experiments are very rare. In all my years at NRC,  
10 I've maybe seen less than a dozen of them.

11 JUDGE HAWKENS: Dr. Slaughter testified  
12 he'll have several reserve fuel elements that can be  
13 added to the core if the physics testing shows that  
14 more fuel is needed; is that correct?

15 MR. ADAMS: That's correct.

16 JUDGE HAWKENS: It's also possible that  
17 the physics testing could show that fewer fuel  
18 elements are needed, thus increasing the number of  
19 fuel elements in reserve; is that correct?

20 MR. ADAMS: That is also correct. The  
21 history of core modeling versus what it actually takes  
22 to get the reactor critical, I've seen estimates that  
23 are low and I've seen estimates that are high so . .  
24 .

25 JUDGE HAWKENS: Would you expect Dr.

1 Slaughter's MCNP5 calculation to be off by more than  
2 the 20 reserve fuel elements in the Aerotest reactor  
3 inventory?

4 MR. ADAMS: No.

5 JUDGE HAWKENS: Does the NRC staff have  
6 the authority to permit the Aerotest reactor to start  
7 up prior to the transfer to perform this confirmatory  
8 activity?

9 MR. ADAMS: Could you ask that question  
10 again, please?

11 JUDGE HAWKENS: Does the NRC staff have  
12 the authority to permit the Aerotest reactor to start  
13 up prior to the transfer to perform this confirmatory  
14 activity?

15 MR. ADAMS: I believe that's a legal  
16 question you're asking me, so I'm not 100-percent sure  
17 where we are in legal space about the ability of the  
18 reactor to restart at this point.

19 JUDGE HAWKENS: It is the NRC staff's  
20 position that restarting the reactor is currently  
21 prohibited; is that correct?

22 MR. ADAMS: Again, you're asking a legal  
23 question. I believe, I believe that's correct, based  
24 on the order that was issued at the time we denied the  
25 license transfer and denied the license renewal. So,

1 yes, I believe that's correct.

2 JUDGE HAWKENS: Here is a question I  
3 believe does fall within your bailiwick. Absent staff  
4 authorization to allow Aerotest to start up the  
5 reactor to perform the confirmatory activities, what  
6 further actions could the companies take at this point  
7 to confirm their analyses?

8 MR. ADAMS: Well, the first thing they  
9 would have to do is determine that the proposed core  
10 is safe so either a safety analysis given to the NRC  
11 staff or a successful 10 CFR 50.59 review. There's no  
12 indication in the testimony from the companies that  
13 either of those steps have been taken.

14 So once that happens, then they would be  
15 allowed to -- again, given no legal blocks, at that  
16 point, they would be allowed to conduct the critical  
17 experiment.

18 JUDGE HAWKENS: Okay. And is it true that  
19 bringing the core to criticality and testing it,  
20 though, is essential, ultimately, to confirm Dr.  
21 Slaughter's analyses?

22 MR. ADAMS: Yes.

23 JUDGE HAWKENS: Mr. Adams, that concludes  
24 my questions. Do you have anything else to add on  
25 reflection to supplement your answers to my questions?

1 MR. ADAMS: Just a comment that the focus  
2 that I'm having is on public health and safety. If  
3 Dr. Slaughter becomes a licensee, this research  
4 reactor will be unique in that this will be the only  
5 licensee that is dependent on outside revenue to  
6 protect public health and safety. You need resources  
7 to protect public health and safety, and the source of  
8 revenue for this reactor will be the outside work they  
9 do. That's not only short-term public health and  
10 safety but also public health and safety if the  
11 revenues don't appear and the reactor has to be shut  
12 down and the fuel has to be stored for a period of  
13 time.

14 JUDGE HAWKENS: That sounded like a  
15 combination technical hat and financial hat. But I  
16 will accept it, and we thank you.

17 MR. ADAMS: Thank you.

18 JUDGE HAWKENS: Anything by NRC counsel?

19 MS. UTTAL: No, your Honor.

20 (Whereupon, the above-entitled matter went  
21 off the record at 2:43 p.m. and went back  
22 on the record at 2:43 p.m.)

23 JUDGE HAWKENS: I mentioned earlier I  
24 wanted to give counsel the opportunity to provide  
25 additional questions to Kathy Schroeder, so she and I

1 can sit and determine whether additional questions are  
2 appropriate to pose to the witnesses. Does counsel  
3 have any questions prepared at this point? Would you  
4 like to take a 10- or 15-minute break to prepare them?

5 MR. SILBERG: We have some prepared.

6 MS. UTTAL: We would like a 15-minute  
7 break to prepare.

8 JUDGE HAWKENS: Would 15 minutes be  
9 adequate?

10 MS. UTTAL: I believe so.

11 MR. SILBERG: I'll be happy to provide --

12 JUDGE HAWKENS: We'd be grateful. That  
13 way, we could look at them now. We'll take a  
14 15-minute break and resume at 3:00. We're in recess.

15 (Whereupon, the above-entitled matter went  
16 off the record at 2:44 p.m. and went back  
17 on the record at 3:30 p.m.)

18 JUDGE HAWKENS: We have a few additional  
19 questions we are going to pose to the witnesses. If  
20 we could get both Dr. Slaughter and Mr. Anderson in  
21 the witness box, please.

22 (Pause)

23 This question I'll pose to both of you.  
24 Are you aware of anywhere in the NRC regulations or  
25 guidance where it says an applicant only has to



1 provide a summary of its support for the statements in  
2 the application?

3 MR. ANDERSON: I am not aware.

4 DR. SLAUGHTER: I'm not either.

5 JUDGE HAWKENS: Again, addressed to both  
6 of you, why was the detailed information provided in  
7 this adjudication not provided during the critical  
8 time period when the staff was reviewing the license  
9 application?

10 MR. ANDERSON: I don't know that I have --  
11 that I can speak specifically to that, except that I  
12 feel like we worked very hard to respond to the  
13 staff's questions and provide the information that we  
14 felt they were asking for.

15 DR. SLAUGHTER: I agree with that  
16 statement. I thought that we were responding to the  
17 RAIs, we were responding to the information necessary  
18 for the application. I thought no different, and I --  
19 but I believe we were doing that.

20 JUDGE HAWKENS: This is addressed to Dr.  
21 Slaughter.

22 DR. SLAUGHTER: Yes.

23 JUDGE HAWKENS: You testified the fuel  
24 analysis was -- your fuel analysis was completed  
25 before the application was submitted, is that correct?

1 DR. SLAUGHTER: No. March of --

2 JUDGE HAWKENS: Okay. Before the final  
3 decision on the application was issued.

4 DR. SLAUGHTER: That is correct. It was.

5 JUDGE HAWKENS: Why did you not submit  
6 that analysis as part of the application for the staff  
7 to consider?

8 DR. SLAUGHTER: I thought that it was a  
9 concern to my decision on moving forward with the  
10 agreement between Autoliv and myself and the purchase  
11 that we had sufficient fuel. I did not necessarily  
12 believe that that was going to be submitted. That  
13 could have been erroneous.

14 But I also understood and believe that the  
15 same information that I reviewed and had available to  
16 me was also available to the NRC and their staff. So  
17 that's the reason.

18 JUDGE HAWKENS: Do you have anything to  
19 add to that?

20 MR. ANDERSON: I don't have anything to  
21 add.

22 JUDGE HAWKENS: Dr. Slaughter, the same  
23 question regarding your market analysis, which was not  
24 provided until after the staff had rendered a decision  
25 on the application.

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DR. SLAUGHTER: The market analysis is --  
and not necessarily in the report -- is the data set  
forth in the due diligence process that allows me to  
understand and build the financials and also  
understand the clients as well as understand some of  
the critical issues that are going to be required in  
order for them to come back.

I failed to submit the additional detailed  
information. I was unaware that I was required to.

JUDGE HAWKENS: Dr. Slaughter, in doing

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JUDGE HAWKENS: [REDACTED]

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JUDGE HAWKENS: Dr. Slaughter, customers

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of Aerotest have stated their version to having a sole

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supplier. Taking that into account, what's the basis

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for thinking that Aerotest would recapture [REDACTED]

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of their previous business?

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DR. SLAUGHTER: [REDACTED]

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[REDACTED]

JUDGE HAWKENS: Of the lowest in recent history.

DR. SLAUGHTER: That particular fact was also figured in to assure that -- because I believe that as well. Early on, when they come back, those clients will come back. They will -- have to feel comfortable and safe in bringing their product in and not putting their particular -- their particular product at risk.

So, yes, that is actually figured in the current financials. And there is -- for some of them, that is a significant concern. They do not want to be left in a lurch, and we had to figure that in. I had to figure that in, but we also know that we will gain some. There will always be probably a small portion that will have a second supplier making sure they have infrastructure ready to go in case something goes wrong with the primary supplier.

JUDGE HAWKENS: This question is directed to whoever is best able to answer it. What is the minimum operating cost for the reactor if it is not operating? Or the minimum operating cost for Aerotest if the reactor is not operating?

DR. SLAUGHTER: Well, it depends on the

1 conditions in which, for example, if you are going to  
2 simply have it on warn, standby, or when it's not  
3 operate -- you're saying --

4 JUDGE HAWKENS: When it's shut down.

5 DR. SLAUGHTER: When it's shut down.

6 JUDGE HAWKENS: I mean, [REDACTED]

7 [REDACTED], and  
8 you were assuming the reactor would be shut down  
9 during that year. Is that the minimum operating cost  
10 for the reactor?

11 DR. SLAUGHTER: If it --

12 JUDGE HAWKENS: If it's not operating?

13 DR. SLAUGHTER: If it's not operating --  
14 you're saying beyond the second year if it's not  
15 operating.

16 JUDGE HAWKENS: Correct.

17 DR. SLAUGHTER: Oh, of course not. If you  
18 look at -- the staffing would be different. Staffing  
19 would be reduced. You wouldn't need that kind of  
20 staffing. You certainly wouldn't need a lot of the  
21 categories in -- which are in that budget. So it  
22 wouldn't be considerably less. [REDACTED]

23 [REDACTED]

24 [REDACTED] But that's -- I think that's still  
25 very high.

1 JUDGE HAWKENS: That completes my  
2 questions for you gentlemen. Thank you.

3 MR. SILBERG: Your Honor, could I -- just  
4 to clarify the record. On the last question, I think  
5 it would be helpful if the record is clear whether  
6 that dollar amount that Dr. Slaughter mentioned was  
7 for a permanently shutdown reactor prior to  
8 decommissioning or one that is just not operating at  
9 that period of time.

10 JUDGE HAWKENS: I'm a little bit out of my  
11 water, because all I have is a question that was  
12 proposed for me. But given the unusual circumstance,  
13 I will ask counsel for NRC staff if they could address  
14 that.

15 MS. UTTAL: I'm just wanting to know --  
16 not decommissioning, just shutdown.

17 MR. SILBERG: So the assumption is we are  
18 not into one of these early permanent shutdowns and  
19 all we're doing is waiting to ship the fuel off to  
20 DOE.

21 MS. UTTAL: No.

22 MR. SILBERG: Okay. Thank you.

23 JUDGE HAWKENS: Could I have the three  
24 staff witnesses please come up to the witness box.

25 (Pause)

1 Mr. Adams, did you review the 2011 and  
2 2013 tapes of the inspections of the reactor fuel  
3 discussed by Dr. Slaughter?

4 MR. ADAMS: No, I have not. The NRC  
5 inspectors reviewed the tapes. I'm sorry, Your Honor.  
6 Can I update that answer?

7 JUDGE HAWKENS: Yes.

8 MR. ADAMS: I believe I have seen some of  
9 the tapes because I did conduct a site visit in 2012.

10 JUDGE HAWKENS: You reviewed them, but did  
11 you reach any conclusions based on your review?

12 MR. ADAMS: I was -- if I saw the tapes,  
13 and I think I saw some of the tapes to get a feel for  
14 what was on the tapes. I have also seen the pictures  
15 of the fuel that was an exhibit from the companies.

16 JUDGE HAWKENS: Mr. Adams, you testified  
17 the companies responded to an RAI on the impact of  
18 damaged fuel by promising to submit a report?

19 MR. ADAMS: Yes.

20 JUDGE HAWKENS: Are you able to identify  
21 that RAI?

22 MR. ADAMS: One moment.

23 (Pause)

24 JUDGE HAWKENS: I may have the answer  
25 here, although I'm having difficulty reading it. Try



1 NRC Exhibit 22P, RAI Number 2.

2 MR. ADAMS: RAI Number 2 sounds like a  
3 good RAI number. What was the number again?

4 JUDGE HAWKENS: RAI Number 2, page 2. And  
5 it's NRC Exhibit 22P.

6 MR. ADAMS: Yes.

7 JUDGE HAWKENS: And could you point out  
8 where Aerotest does represent it will submit a report?

9 MR. ADAMS: Scroll down a little bit more.

10 (Pause)

11 Yeah. 26P, is it 5B?

12 (Pause)

13 Based on this, I am not sure if I spoke  
14 correctly.

15 JUDGE HAWKENS: If subsequently you are  
16 able to find that, please feel free to include it in  
17 a final pleading that you submit.

18 MR. ADAMS: All right.

19 JUDGE HAWKENS: To your knowledge, did the  
20 staff ever advise Dr. Slaughter that the core  
21 calculation and fuel analyses -- its report would be  
22 essential to this license transfer application?

23 MR. ADAMS: Are you addressing that to me?

24 JUDGE HAWKENS: If you're able to answer  
25 it. If not, I will address it to your colleagues. If

1 they know the answer, I'll -- please --

2 MR. ADAMS: I never made that statement.

3 MS. SIMMONS: No, that wasn't part of the  
4 financial qualifications, except that that was related  
5 to the revenue projections.

6 MS. LIAN: And a cost assumption.

7 JUDGE HAWKENS: This is directed to Ms.  
8 Lian and Ms. Simmons. The NRC staff filed three RAIs.  
9 The companies answered each one. And if the last  
10 response was not sufficient, why did not the staff ask  
11 followup questions?

12 MS. LIAN: So you're correct. We have  
13 asked three sets of requests for additional  
14 information. The meeting -- again, phone calls were  
15 necessary and requested. We have expressed our  
16 expectations for financial -- evidence for financial  
17 qualification and concluded the last round of RAIs.  
18 There was just not enough information to -- the  
19 calculation that we could have determined a time did  
20 not even come close to [REDACTED] So at that point we  
21 concluded that it would not be more beneficial to ask  
22 one more round of RAIs.

23 JUDGE HAWKENS: All right. Ms. Simmons,  
24 I believe you testified that the support agreement for  
25 Autoliv had expired.

1 MS. SIMMONS: It's my understanding that  
2 the support agreement expired in December of 2013. I  
3 --

4 JUDGE HAWKENS: Can you tell me what that  
5 support agreement was.

6 MS. SIMMONS: [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED]  
[REDACTED] that they were using in order  
9 to try to make the five-year pro forma showing.

10 MS. LIAN: [REDACTED]  
[REDACTED]  
[REDACTED]

13 JUDGE HAWKENS: Have you asked Mr.  
14 Anderson or Dr. Slaughter whether the agreement would  
15 be extended?

16 MS. SIMMONS: Well, we denied the license  
17 transfer, so we did -- we ceased asking additional  
18 questions. Of course, there is a lot of new  
19 information that has been provided in this proceeding.

20 JUDGE HAWKENS: So you have no reason to  
21 think it wouldn't be extended.

22 MS. SIMMONS: Well, the --

23 JUDGE HAWKENS: Can you answer yes or no,  
24 and then you can follow up.

25 MS. SIMMONS: I have no reason to believe

1 that they could not provide additional support  
2 agreement.

3 JUDGE HAWKENS: Ms. Lian or Ms. Simmons,  
4 I'm not sure who stated that competitors might lower  
5 their prices to meet Aerotest's lower prices.

6 MS. LIAN: I think we both stated that.

7 JUDGE HAWKENS: All right. Which specific  
8 competitors do you think might lower their prices?

9 MS. LIAN: That is way too hypothetical.  
10 I'm not the representative of any of those suppliers,  
11 so I cannot answer that question.

12 JUDGE HAWKENS: Do you know who Aerotest's  
13 principal competitors are?

14 MS. LIAN: I think we mentioned that.

15 MS. SIMMONS: New information was provided  
16 that was more specific about their competitors that I  
17 believe Mr. Adams also described in some of the new  
18 adjudicatory information, yes.

19 JUDGE HAWKENS: It's correct, however, you  
20 did not perform any investigation as to the likelihood  
21 that a competitor would lower or undercut Aerotest's  
22 prices, is that correct?

23 MS. SIMMONS: No.

24 JUDGE HAWKENS: I believe Ms. Simmons said  
25 the staff couldn't find the revenue projections

1 reasonable because you didn't know how university  
2 reactors might respond, is that correct?

3 MS. SIMMONS: That would be one element of  
4 the staff's thought process on how competitors would  
5 react, yes.

6 JUDGE HAWKENS: Okay.

7 MS. SIMMONS: That it's an unknown.

8 JUDGE HAWKENS: Was that particular issue  
9 raised, either in the SER or the RAIs?

10 MS. SIMMONS: Because the companies were  
11 unable to meet the regulations, we didn't get into  
12 that specific information.

13 JUDGE HAWKENS: All right. That concludes  
14 my additional questions for you. Any additional  
15 statements anyone wants to make to supplement your  
16 response to my final questions?

17 MS. LIAN: Not at this moment.

18 MS. SIMMONS: Not at this moment. Thank  
19 you.

20 MR. ADAMS: Not at this moment.

21 JUDGE HAWKENS: Thank you. We're ready  
22 for closing statements, first by the staff and then by  
23 the companies. Are counsel ready to proceed?

24 MS. GHOSH: Yes. Good afternoon, Your  
25 Honor.

1 JUDGE HAWKENS: Good afternoon.

2 MS. GHOSH: Today we have heard testimony  
3 from both the company's witnesses and the staff's  
4 witnesses regarding whether staff appropriately  
5 interpreted the Commission's financial qualifications,  
6 regulations, and correctly applied them to the record  
7 facts in its denial of the company's license transfer  
8 application.

9 The evidence presented by the staff's  
10 witnesses today, and in their written testimony,  
11 clearly demonstrates that the staff has done so, and  
12 that the staff's denial of the company's application  
13 should be upheld.

14 The companies assert that the staff  
15 inappropriately continued to look for committed  
16 sources of funds as one of the only bases for  
17 determining financial qualification. This assertion  
18 is without merit. In accordance with the guidance in  
19 NUREG-1537, the staff requested and considered both  
20 committed and potential sources of funds.

21 The only committed sources of funds with  
22 respect to operating costs provided by the companies  
23 were from the 12-month funding agreement from Autoliv.  
24 The companies provided 26 letters of interest, but the  
25 staff considered these letters as potential sources of

1 funds because these were not letters of intent  
2 indicating some sort of funding commitment.

3 The companies also argue that their  
4 revenue projection was reasonable because it was based  
5 on historical revenue data, as well as Dr. Slaughter's  
6 evaluation of Aerotest's customer base and market.  
7 However, the market study, its findings, the data  
8 supporting it, were never provided to the staff during  
9 its review of the application. Therefore, the staff  
10 reasonably relied on all of the information provided  
11 to the staff at the time of its review.

12 With respect to customers returning, the  
13 staff was only provided with written statements from  
14 two prior customers to support the company's assertion  
15 that previous customers were interested in returning  
16 even after the reactor was shut down in 2010.

17 Additionally, with respect to research  
18 funding, the companies provided no documentation in  
19 their application to verify the amount, timing, or  
20 approval of research funding by MSI Photogenics  
21 discussed in the application. Because of this lack of  
22 support, the staff reasonably concluded that the  
23 research revenue projection was uncertain.

24 For the first time, in his rebuttal  
25 testimony Dr. Slaughter provided new information to

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the staff [REDACTED]  
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[REDACTED]

This new information is not relevant to the staff's conclusions related to research revenues because it was not on record at the time the staff denied the application.

Dr. Slaughter also testified regarding his core evaluations and his new proposed core. However, this new information is also not relevant to the staff's July 24th, 2013, conclusions regarding uncertainty of the operability of the reactor given the damaged fuel elements, because this information was not on the record when the staff denied the application.

Finally, as the staff has testified, the companies stated in their RAI response that if they -- they would prematurely shut down if they were unable to obtain sufficient revenue and exhausted their committed operational funds at the end of the first year. Based on this, the staff concluded that the companies would still be liable for approximately an additional \$4 million in spent fuel storage costs



1 until 2055 and would not have accumulated sufficient  
2 funding to cover these costs. This would be a  
3 significant health and safety concern for the public.

4 The Commission has recognized that the  
5 Aerotest case is somewhat atypical, and that it stems  
6 not from an intervention petition but from a challenge  
7 to a staff's decision to deny the application. When  
8 there is an intervention petition to a license  
9 transfer, the transfer application is technically  
10 still under review by the staff and is able to be  
11 changed by the applicant.

12 However, when the applicant is challenging  
13 staff's denial of its license transfer application,  
14 such as here, the application's review by the staff  
15 has been completed, and the application can no longer  
16 be changed or modified by the applicant. Thus, the  
17 companies may attempt to explain why the information  
18 in their application should have led to the staff to  
19 approve the application or point to information that  
20 the staff may not have considered, but they cannot now  
21 submit new information supplementing or modifying the  
22 information relied on by the staff.

23 Much of the new information provided in  
24 the testimony and exhibits from the company in this  
25 proceeding was new information that was neither

1 submitted nor relied on by the staff in making its  
2 legal and factual conclusions in denying the company's  
3 application. This information should not be  
4 considered.

5 The underlying question in this proceeding  
6 is whether the staff's licensing decision, the denial  
7 of the indirect license transfer application, was  
8 reasonable based on the information available at the  
9 time of that denial.

10 The staff's witnesses have testified that  
11 they thoroughly reviewed the company's application,  
12 asked three sets of RAIs, and even held a public  
13 meeting to ensure that the companies understood the  
14 final qualification requirements for approval of their  
15 transfer application. We have also heard from the  
16 staff witnesses that the company's five-year cost and  
17 revenue projections were not sufficient, because they  
18 were based on a funding commitment that covers only  
19 one year of operating costs and unsupported and  
20 unreasonable revenue projections for years 2 through  
21 5.

22 The staff's witnesses have also testified  
23 that the company's application was unique compared to  
24 other license transfer applications, and that it  
25 involved a newly formed entity, a shutdown reactor,

1 uncertainty regarding customers returning, and  
2 uncertainty regarding operability of the reactor in  
3 light of the damaged fuel.

4 Finally, the application did not  
5 demonstrate that there would be sufficient funds to  
6 cover the annual cost of spent fuel storage until the  
7 Department of Energy accepts the fuel in 2055.

8 Based on all of the information the  
9 companies provided at the time of the staff's denial,  
10 the staff reasonably concluded that, one, the  
11 companies did not demonstrate that they have, or with  
12 reasonable assurance will have, sufficient funding to  
13 conduct activities authorized by the license if the  
14 license is indirectly transferred; and, two, the  
15 companies did not demonstrate that there will be  
16 sufficient funds to cover the annual cost of spent  
17 fuel storage until the Department of Energy accepts  
18 the spent fuel.

19 Therefore, the staff's denial of the  
20 company's indirect license transfer application should  
21 be upheld.

22 Thank you.

23 JUDGE HAWKENS: Thank you. One question  
24 for you, perhaps two. Are you able to give examples  
25 of Licensing Board hearings where information provided

1 subsequent to the staff SER was excluded because it  
2 was new?

3 MS. GHOSH: In our research, we couldn't  
4 find a Licensing Board proceeding where there was a  
5 denial of an application, where an applicant had later  
6 supplemented an application.

7 JUDGE HAWKENS: Don't Licensing Boards  
8 typically review on that type of information in  
9 reaching their decisions?

10 MS. GHOSH: They usually do, but usually  
11 there is an intervention petition that comes in before  
12 the staff has made its final licensing decision. The  
13 nature of this proceeding is different. In essence,  
14 the staff has issued its decision. It made a final  
15 decision. And, you know, it was based on everything  
16 on the record at that time.

17 JUDGE HAWKENS: In the Honeywell case, the  
18 Commission indicated that new information can be  
19 considered insofar as it sheds light on the facts that  
20 existed and events that occurred during the relevant  
21 period of time. And although this is new information,  
22 it seems to supplement the bottom line advanced by  
23 Aerotest that the transaction wouldn't go forward  
24 unless there was sufficient level of confidence that  
25 the reactor would be operable, sufficient fuel, and it

1 could be operated safely. And they also presented,  
2 represented, and provided information indicating they  
3 would have sufficient revenues to cover the costs.

4 So why isn't the new information, which  
5 you say ought not be considered because it was not  
6 before the staff at the time it made its decision, be  
7 considered insofar as it sheds light on the facts that  
8 existed and events that occurred during the relevant  
9 period of time?

10 MS. GHOSH: Your Honor, I am not familiar  
11 with the Honeywell case. But to the extent that new  
12 information would shed light, there is a difference  
13 between new information that kind of explains and then  
14 new information which is completely supplementing what  
15 the applicants previously told us. There is  
16 information we didn't have at the time. This would  
17 change our conclusions.

18 And to say that our conclusions, that the  
19 staff's conclusions were somehow reasonable because  
20 they didn't take into consideration, you know, a  
21 number of evaluations that had been done, a market  
22 study that had been done, this would have affected the  
23 staff's analysis. So it's -- it just --

24 JUDGE HAWKENS: Isn't that all the more  
25 reason to consider it at this point, so the Commission

1 can make an accurate decision based on all of the  
2 information before it?

3 MS. GHOSH: I think the purpose of this  
4 proceeding is to determine whether the staff's  
5 determination was reasonable at that time. And if  
6 that's the scope of the proceeding, which the staff  
7 believes it to be, then no, the new information, to  
8 the extent that the companies have provided, is not  
9 relevant. If this was an intervention petition,  
10 before the staff had made its final decision, then,  
11 yes, at that time, you know, some of this information  
12 could supplement the application.

13 JUDGE HAWKENS: Thank you.

14 MS. GHOSH: Thank you.

15 MS. HARSHAW: Your Honor, this proceeding  
16 has been a moving target for the applicants. We  
17 developed our application based on the regs, the  
18 guidance, and our experience with the X-ray  
19 application and the governing realities of this  
20 business.

21 Do we wish we had provided more  
22 information at that time? Indeed, hindsight is 20/20,  
23 but we can't read the staff's mind and we answered  
24 every question that they asked. But every time we  
25 provided information they had more questions. And as

1 you have heard by the witnesses today, the information  
2 that we provided wouldn't change their mind. They  
3 would want more information and more information.

4 They say that our assumptions are  
5 reasonable, our forecasts are reasonable, but they  
6 can't rely on our reasonable assumptions and forecasts  
7 because they want to see contracts and letters of  
8 intent. They say that we didn't provide information  
9 -- we only provided two letters that showed interest  
10 by customers.

11 Our very first RAI provided a number of  
12 statements that showed interest by our customers, and  
13 they didn't consider them. Then, we told them we  
14 could not get letters of intent or contracts from all  
15 of our customers, but then we did provide what we  
16 could, provided 26 documents, and every one of these  
17 show interest of some sort and support the fact that  
18 customers were interested.

19 [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
25 [REDACTED]





1 relevant information, information on cash or cash  
2 equivalent that would be sufficient to cover fixed  
3 operating costs during an outage of six months, the  
4 amount of decommissioning funds collected or  
5 guaranteed, and any other relevant factors."

6 So we put together a financial plan that

7 [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

14 Furthermore, the company's plan was based  
15 on a thorough analysis of the damaged fuel, as Dr.  
16 Slaughter has testified, and we told the staff that we  
17 were performing that analysis and they never asked for  
18 it. And it was unreasonable for the staff to think we  
19 were going to submit a detailed fuel analysis in the  
20 context of a license proceeding, although they could  
21 certainly have asked, and all of that information was  
22 available to them.

23 We are not aware of any legal basis to say  
24 that information we provided in this proceeding should  
25 be excluded. The staff doesn't point to any case law

1 that supports that, and in fact the Commission was  
2 quite clear in ordering this proceeding that it didn't  
3 matter that the proceeding was because it was  
4 initiated by an applicant or an intervenor.

5 We asked that the proceedings be  
6 consolidated, and we thought that was reasonable  
7 because we were -- we had the same facts, and the  
8 Commission said, "No, it doesn't matter that this was  
9 initiated by an intervenor or an applicant. We're not  
10 changing the rules." So why should we be changing the  
11 rules when it comes to supplementing the record?

12 And, in fact, the staff says that the only  
13 time that information has been allowed on the record  
14 is when the staff has not approved the application  
15 yet, which is untrue. The case that we cited, the  
16 Missouri University case, that was a license amendment  
17 that had already been approved by the staff, and the  
18 intervenor was challenging it.

19 For all the reasons we have provided --

20 JUDGE HAWKENS: Can I ask you now -- I'll  
21 let you finish, but I'd like to ask you to just  
22 summarize the facts of that case, because I'm not as  
23 familiar with it as you, and I'd be interested in  
24 hearing a summary.

25 MS. HARSHAW: Okay. The companies, in

1 totality, [REDACTED] They  
2 provided -- [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

7 And one more item that I'd like to point  
8 out is the staff has said that we have added new  
9 information. But in response to our very first RAI,  
10 which is NRC018, [REDACTED]  
[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]  
[REDACTED] [REDACTED]  
[REDACTED] [REDACTED]  
[REDACTED] [REDACTED]  
[REDACTED] That was our very first response.

16 At that time, if they wanted more  
17 information on that, they could have asked. And we  
18 expanded on that information in our testimony, but  
19 that was on the record. But it's clear that the staff  
20 was not interested in finding out more information  
21 about that.

22 That's all I have.

23 JUDGE HAWKENS: Thank you. Are you able  
24 to summarize that Missouri case that you cited?

25 MS. HARSHAW: In the -- yes. In the

1 Missouri case, I believe it was a materials case,  
2 University of Missouri had submitted license  
3 amendments, and the staff had approved them. And then  
4 they were challenged by intervenors and they -- the  
5 intervenors then -- the judge let additional  
6 information into the proceeding, and the intervenor --  
7 there was an appeal to the Commission, and the  
8 Commission said that the presiding officer has the  
9 ability to consider new information.

10 JUDGE HAWKENS: So there is -- you read  
11 the case law there is no bright line rule which bars  
12 the Commission's consideration of new evidence that  
13 was not presented or new information or data not  
14 presented to the staff during its consideration --

15 MS. HARSHAW: Right.

16 JUDGE HAWKENS: -- of the application.

17 MS. HARSHAW: And the Commission stated we  
18 don't encourage having bare bones applications  
19 submitted, which is what the intervenors were saying,  
20 but we don't see any reason why the presiding officer  
21 can't consider new information.

22 JUDGE HAWKENS: The new information, which  
23 I believe includes the fuel analysis and calculations  
24 done by Dr. Slaughter in his market research, there  
25 may be additional new information. Would you

1 characterize that as information falling into the  
2 category of new as in the Missouri case, which a  
3 reviewing body has the discretion to consider, or it  
4 would be new in the sense of the Honeywell case, where  
5 the Commission says it can be considered insofar as it  
6 sheds light on the facts that existed and events that  
7 occurred during the relevant period of time?

8 MS. HARSHAW: I think all of it falls into  
9 the existed and sheds light on the information that  
10 was available at the time. Dr. Slaughter used his  
11 market study to develop the cost projections that were  
12 submitted with the application. Now we are not  
13 talking about a big, huge company that has a -- you  
14 know, a wholesale department that does marketing  
15 study.

16 We are just talking about one individual  
17 who studied the market and is aware of the market and  
18 used that information that he gathered to develop  
19 revenue projections. He provided more detail on his  
20 understanding in his testimony, so there is certainly  
21 information that he used to develop his revenue  
22 projections.

23 JUDGE HAWKENS: Thank you.

24 MS. HARSHAW: Thank you.

25 JUDGE HAWKENS: Let's discuss a few final

1 scheduling and administrative matters. In our initial  
2 scheduling order, the written post-hearing statements  
3 are due within 20 days of the close of today's  
4 hearing. And by my calculation, that falls on Monday,  
5 September 1st, Labor Day. And I propose they be filed  
6 sooner rather than later, and, therefore, suggest they  
7 be filed on Friday, August 29, which would be 17 days.  
8 Can the companies support that schedule?

9 MR. SILBERG: I guess one question is when  
10 we will see the transcript.

11 JUDGE HAWKENS: Let's discuss the  
12 transcript, then. Keep that question in mind, and the  
13 staff can be considering that question as well. We're  
14 going to seek a one-day turnaround for the transcript,  
15 so it should be available tomorrow, no later than  
16 Thursday, August 14th. I would suggest a joint  
17 request for transcript corrections within 10 days. Is  
18 that reasonable?

19 MR. SILBERG: Yes.

20 JUDGE HAWKENS: Kathy, do you have a  
21 calendar? What does the tenth day fall on, to make  
22 sure we're not a weekend. Friday, August 22nd, will  
23 that work for counsel for the companies?

24 MR. SILBERG: For transcript corrections?

25 JUDGE HAWKENS: The transcript

1 corrections. Joint transcript corrections, I'd  
2 request, and, NRC staff, is that -- and assuming that  
3 joint transcript corrections request is submitted on  
4 the 22nd, would August 29th, a Friday, work for the  
5 written post-hearing statements?

6 While they're talking, NRC staff, is that  
7 -- can you support that?

8 MS. UTTAL: Yes.

9 MR. SILBERG: Ms. Harshaw said she can  
10 support that.

11 (Laughter)

12 JUDGE HAWKENS: I feel your pain, Ms.  
13 Harshaw. All right.

14 Did counsel have anything else before we  
15 close the record, subject to transcript corrections?  
16 Companies?

17 MR. SILBERG: No, we do not, Your Honor.  
18 Thank you very much.

19 JUDGE HAWKENS: NRC staff?

20 MS. UTTAL: No.

21 JUDGE HAWKENS: Again, I'd like to thank  
22 the witnesses for being here with us today and for  
23 their testimony. I'd like to thank the counsel for  
24 their advocacy. I know that, combined with all of the  
25 exhibits and pleadings you've submitted and will

1 submit will assist the Commission in the  
2 decision-making process.

3 Let me also express my gratitude to the  
4 Court reporter, Tobias Walter; to Karen Valloch,  
5 Board's administrative assistant in the back who has  
6 helped out with the logistics; Andy Welkie, our IT  
7 expert and our Court -- Clerk of Court for the  
8 hearing; and Kathy Schroeder, the Court's -- Board's  
9 Law Clerk, who will be continuing to help counsel  
10 until the record is certified to the Commission.

11 Thank you. We are adjourned.

12 (Whereupon, the above-entitled matter went  
13 off the record at 3:51 p.m.)

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<b>United States Nuclear Regulatory Commission Official Hearing Exhibit</b>	
AEROTEST OPERATIONS, INC. (Aerotest Radiography and Research Reactor)	
	ASLBP #: 14-931-01-LT-BD01
	Docket #: 05000228
	Exhibit #: AOI000-R-00-BD01
	Admitted: 8/12/2014
	Rejected:
	Other:
	Identified: 8/12/2014
	Withdrawn:
	Stricken:

Exhibit AOI000R

Aerotest Operations, Inc.  
(Aerotest Radiography and Research Reactor)  
Docket No. 50-228-LT  
ASLBP No. 14-931-01-LT-BD01

Aerotest and Nuclear Labyrinth Revised Hearing Exhibits

Submitted July 18, 2014

<b>Aerotest Operations Exhibit #<sup>1</sup></b>	<b>Witness</b>	<b>Description</b>
AOI000R		Aerotest Operations, Inc. Revised Hearing Exhibits List (July 18, 2014)
AOI002		Eric Leeds, NRC, letter to Dario Brisighella, Aerotest, Aerotest Operations, Inc. – Proposed Denial of Application for Renewal of Facility License No. R-98 (TAC No. MD8177) (July 9, 2009) (ADAMS Accession No. ML090830578)
AOI100	Anderson	Pre-filed Direct Testimony of Michael S. Anderson (Proprietary)
AOI101	Anderson	Resume of Michael S. Anderson
AOI106	Anderson	Funding Agreement (Proprietary)
AOI108	Anderson	Figure of Facility (Proprietary)
AOI109	Anderson	Updated Safety Analysis Report (February 28, 2005) (Chapter 1)
AOI111	Anderson	Fax from Aerotest to NRC: Letter Announcing Organizational Changes (May 4, 2000)
AOI112	Anderson	NRC Memorandum, D. Matthews to J. Craig, appended to J. Craig Notice to Commissioner Assistants re: Indirect Transfer of License (October 17, 2000) (ADAMS Accession No. ML040430500)

<sup>1</sup> After coordinating with NRC Staff Counsel, duplicate exhibits were removed.

Aerotest Operations, Inc.  
 (Aerotest Radiography and Research Reactor)  
 Docket No. 50-228-LT  
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Aerotest and Nuclear Labyrinth Revised Hearing Exhibits

Submitted July 18, 2014

<b>Aerotest Operations Exhibit #<sup>1</sup></b>	<b>Witness</b>	<b>Description</b>
AOI113	Anderson	Inspection Report documenting URI (October 18, 2000)
AOI115	Anderson	X-Ray License Transfer Application (January 7, 2010)
AOI117	Anderson	Safety Evaluation by the Office of Nuclear Reactor Regulation for Indirect Transfer and Conforming Amendment, Proposed Acquisition of Aerotest Operations, Inc. for Aerotest Radiography and Research Reactor by X-Ray Industries, Inc., Facility Operating License No. R-98, Docket No. 50-228 (July 7, 2010)
AOI118R	Anderson	Response to Request for Additional Information Regarding Proposed Indirect License Transfer (TAC No. ME1887) (April 1, 2010) (Proprietary) (Excerpts)
AOI119	Anderson	Aerotest Operations, Inc. (Aerotest Radiography and Research Reactor), Order Approving Indirect Transfer of Facility Operating License and Conforming Amendment (July 6, 2010)
AOI120	Anderson	Order Extending the Effectiveness of the Approval of the Indirect Transfer of Facility Operating License (September 13, 2010)
AOI121	Anderson	Decommissioning Cost Estimate for the Aerotest Radiography and Research Reactor (October 4, 2012) (Proprietary)
AOI122	Anderson	DOE Contract and Amendment
AOI123	Anderson	Aerotest Historical Financial Data for years 2003-2011 (Proprietary)

Aerotest Operations, Inc.  
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<b>Aerotest Operations Exhibit #<sup>1</sup></b>	<b>Witness</b>	<b>Description</b>
AOI124	Anderson	Sales by Year – 2003 – 2011 (Proprietary)
AOI125	Anderson	Aerotest Brochure – Neutron Radiography
AOI200	Slaughter	Pre-filed Direct Testimony of Dr. David Michael Slaughter (Proprietary)
AOI201	Slaughter	Curriculum Vitae of Dr. David Michael Slaughter
AOI202	Slaughter	Picture of ARRR Aluminum fuel element
AOI203	Slaughter	Picture of Damaged ARRR fuel
AOI205	Slaughter	Core Map 2010 (Proprietary)
AOI206	Slaughter	Core Map – Proposed (Proprietary)
AOI207	Slaughter	Core Design Calculation (Proprietary)
AOI208	Slaughter	Five Years Projected Income Statement (Proprietary)
AOI209	Slaughter	Year 1 Costs for Restarting the Reactor (Proprietary)
AOI210	Slaughter	NUREG-1577, Standard Review Plan on Power Reactor Licensee Financial Qualifications and Decommissioning Funding Assurance, Rev. 1 (December 2001) (ADAMS Accession No. ML013330264)

Aerotest Operations, Inc.  
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Submitted July 18, 2014

<b>Aerotest Operations Exhibit #<sup>1</sup></b>	<b>Witness</b>	<b>Description</b>
AOI212	Slaughter	NUREG-1537, Guidelines for Preparing and Reviewing Applications for the Licensing on Non-Power Reactors, Format and Content, Part 1 (February 1996) (Chapter 15)
AOI213	Slaughter	Centennial Bank Letter of Credit (Proprietary)
AOI214	Slaughter	Example Balance Sheet for 2 <sup>nd</sup> Year of Operation (Proprietary)
AOI216	Slaughter	Department of Energy, Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste (January 2013)
AOI300	Slaughter	Pre-Filed Rebuttal Testimony of David Michael Slaughter, Ph.D. (Proprietary)
AOI301	Slaughter	AGNIR Report (Aug. 1966) (Proprietary)
AOI302	Slaughter	Letter, M. Slaughter (Aerotest) to L. Kokajko (NRC), re: Response to Apparent Violation in NRC Inspection Report No. 50-228/2012-201; EA-13-108 (Nov. 1, 2013)

**In the Matter of Aerotest Operations, Inc.**  
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**2014 Evidentiary Hearing**  
**NRC Staff Hearing Exhibits – Revised: July 18, 2014**

<u>NRC Exhibit #</u>	<u>Witness/Panel</u>	<u>Description</u>
NRC-001	Adams/Lian/Simmons	Statement of Position (REDACTED)
<b>NRC-001(P)<sup>1</sup></b>	<b>Adams/Lian/Simmons</b>	<b>Statement of Position (PROPRIETARY)</b>
NRC-002	Lian/Simmons	Testimony (REDACTED)
<b>NRC-002(P)</b>	<b>Lian/Simmons</b>	<b>Testimony (PROPRIETARY)</b>
NRC-003	Adams	Testimony
NRC-004	Lian	Statement of Professional Qualifications
NRC-005	Simmons	Statement of Professional Qualifications
NRC-006	Adams	Statement of Professional Qualifications
NRC-007	Adams/Lian/Simmons	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) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12152A233)
NRC-008	Adams/Lian/Simmons	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, Attachments 1-11 (May 30, 2012) (ADAMS Accession No. ML12180A384) (REDACTED) (Application)
<b>NRC-008(P)</b>	<b>Adams/Lian/Simmons</b>	<b>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, Attachments 1-11 (May 30, 2012) (ADAMS Accession No. ML12152A234) (PROPRIETARY) (Application)</b>
NRC-009	Adams/Lian/Simmons	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 (ADAMS Accession No. ML12214A481) (ARRR License)

<sup>1</sup> The "(P)" in an exhibit number denotes that the exhibit contains proprietary information.

**In the Matter of Aerotest Operations, Inc.  
(Aerotest Radiography and Research Reactor)  
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ASLBP No. 14-931-01-LT-BD01  
2014 Evidentiary Hearing  
NRC Staff Hearing Exhibits – Revised: July 18, 2014**

<b><u>NRC Exhibit #</u></b>	<b><u>Witness/Panel</u></b>	<b><u>Description</u></b>
NRC-010	Adams	Appendix A to License No. R-98, Technical Specifications for the Aerotest Radiography and Research Reactor (ARRR) (ADAMS Accession No. ML12214A482) (ARRR TS)
NRC-011	Lian/Simmons	Letter from Michael S. Anderson, Vice President for Legal Affairs and General Counsel, Autoliv, Inc., to David Mathews, Director, NRR, and Marvin Mendonca, Senior Project Manager, NRR, NRC, Divestiture Plan Regarding Indirect Transfer of the Aerotest Radiography and Research Reactor (ARRR) (Jan. 29, 2004) (ADAMS Accession No. ML040340559)
NRC-012	Lian/Simmons	Letter from Sandra L. Warren, Manager, Aerotest Operations, Inc., to Director, NRR, NRC (Apr. 14, 2000) (ADAMS Accession No. ML003704794)
NRC-013	Lian/Simmons	Letter from Ledyard B. Marsh, NRC, to Ray Tsukimura, President, Aerotest Operations, Inc., Transfer of Ownership, (Oct. 18, 2000) (ADAMS Accession No. ML003756103)
NRC-014	Lian/Simmons	Letter from David B. Matthews, NRC, to Michael Anderson, General Counsel, Autoliv, and Ray R. Tsukimura, President, Aerotest Operations, Inc., Divestiture Plan Regarding Indirect Transfer of the Aerotest Radiography and Research Reactor (ARRR) to Autoliv ASP, Inc., and Autoliv, Inc. (Oct. 7, 2003) (ADAMS Accession No. ML032550142)
NRC-015	Lian/Simmons	Letter from Michael Anderson, Vice President for Legal Affairs and General Counsel, Autoliv, to David Mathews, NRC, RE: Divestiture Plan Regarding Indirect Transfer of the Aerotest Radiography and Research Reactor (ARRR) to Autoliv ASP, Inc., and Autoliv, Inc. (Dec. 4, 2003) (ADAMS Accession No. ML033440246)
NRC-016	Adams/Lian/Simmons	Letter from Jessie Quichocho, 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) (ADAMS Accession No. ML121740317)

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**NRC Staff Hearing Exhibits – Revised: July 18, 2014**

<b><u>NRC Exhibit #</u></b>	<b><u>Witness/Panel</u></b>	<b><u>Description</u></b>
NRC-017	Adams/Lian/Simmons	Enclosure, Required Supplemental Information for the NRC Acceptance Review of the License Transfer Applications Which Was Submitted by Aerotest and Nuclear Labyrinth (July 5, 2012) (ADAMS Accession No. ML121740343) (RAI #1)
NRC-018	Adams/Lian/Simmons	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) (ADAMS Accession No. ML122021201) (REDACTED) (RAI Response #1)
<b>NRC-018(P)</b>	<b>Adams/Lian/Simmons</b>	<b>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) (ADAMS Accession No. ML122021202) (PROPRIETARY) (RAI Response #1)</b>
NRC-019	Lian/Simmons	Letter from Alexander Adams, NRC, to Dario Brisighella, President, Aerotest Operations, Inc., and David M. Slaughter, Chief Executive Officer, Nuclear Labyrinth, LLC, Acceptance of Requested License Transfer Application (Aug. 14, 2012) (ADAMS Accession No. ML12213A486)
NRC-020	Adams/Lian/Simmons	Letter from Alexander Adams, NRC, to Dario Brisighella, President, Aerotest Operations, Inc., and David M. Slaughter, Chief Executive Officer, 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 (Sept. 14, 2012) (ADAMS Accession No. ML12242A460)
NRC-021	Adams/Lian/Simmons	Enclosure, Request for Additional Information Regarding the Indirect License Transfer Aerotest Radiography and Research Reactor Facility Operating License No. R-98 Docket No. 50-228 (Sep. 14, 2012) (ADAMS Accession No. ML12242A479) (REDACTED) (RAI #2)
<b>NRC-021(P)</b>	<b>Adams/Lian/Simmons</b>	<b>Enclosure, Request for Additional Information Regarding the Indirect License Transfer Aerotest Radiography and Research Reactor Facility Operating License No. R-98 Docket No. 50-228 (Sep. 14, 2012) (ADAMS Accession No. ML12242A467) (PROPRIETARY) (RAI #2)</b>

**In the Matter of Aerotest Operations, Inc.  
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Docket No. 50-228-LT  
ASLBP No. 14-931-01-LT-BD01  
2014 Evidentiary Hearing  
NRC Staff Hearing Exhibits – Revised: July 18, 2014**

<b><u>NRC Exhibit #</u></b>	<b><u>Witness/Panel</u></b>	<b><u>Description</u></b>
NRC-022	Adams/Lian/Simmons	Letter from Jay Silberg, Counsel, 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) (ADAMS Accession No. ML12291A508) (REDACTED) (RAI Response #2)
<b>NRC-022(P)</b>	<b>Adams/Lian/Simmons</b>	<b>Letter from Jay Silberg, Counsel, 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) (ADAMS Accession No. ML122920159) (PROPRIETARY) (RAI Response #2)</b>
NRC-023	Adams/Lian/Simmons	Letter from Alexander Adams, NRC, to Dario Brisighella, President, Aerotest Operations, Inc., and David M. Slaughter, Chief Executive Officer, 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) (ADAMS Accession No. ML12339A181)
NRC-024	Adams/Lian/Simmons	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 (Dec. 10, 2012) (ADAMS Accession No. ML12339A189) (REDACTED) (RAI #3)
<b>NRC-024(P)</b>	<b>Adams/Lian/Simmons</b>	<b>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 (Dec. 10, 2012) (ADAMS Accession No. ML12339A185) (PROPRIETARY) (RAI #3)</b>
NRC-025	Lian/Simmons	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) (ADAMS Accession No. ML13018A003)



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NRC-026	Adams/Lian/Simmons	Letter from Jay Silberg, Counsel, 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) (ADAMS Accession No. ML13015A395) (REDACTED) (RAI Response #3)
NRC-026(P)	Adams/Lian/Simmons	<b>Letter from Jay Silberg, Counsel, 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) (ADAMS Accession No. ML13015A397) (PROPRIETARY) (RAI Response #3)</b>
NRC-027	Lian/Simmons	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) (ADAMS Accession No. ML13129A001) (REDACTED) (Safety Evaluation (SE)).
NRC-027(P)	Lian/Simmons	<b>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) (ADAMS Accession No. ML13128A403) (PROPRIETARY) (Safety Evaluation (SE)).</b>
NRC-028	Lian/Simmons	Letter from Eric J. Leeds, 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) (ADAMS Accession No. ML13120A598)

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NRC-029	Adams/Lian/Simmons	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) (ADAMS Accession No. ML042430048) (excerpted) (NUREG-1537, Part 2)
NRC-030	Adams	Letter from Sandra Warren, General Manager, Aerotest Operations, Inc., to Spyros Traiforos, NRC (Jan. 11, 2012) (ADAMS Accession No. ML12018A336)
NRC-031	Adams	Letter from Sandra Warren, General Manager, Aerotest Operations, Inc., to Spyros Traiforos, NRC (Jan. 20, 2012) (ADAMS Accession No. ML12026A344)
NRC-032	Adams/Lian/Simmons	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) (ADAMS Accession No. ML12213A001)
NRC-033	Adams	Letter from Sandra Warren, General Manager, Aerotest Operations, Inc., to Spyros Traiforos, NRC (Aug. 15, 2013) (ADAMS Accession No. ML13247A668)
NRC-034	Adams	Aerotest Operations, Inc., Aerotest Radiography and Research Reactor (ARRR), Updated Safety Analysis Report (USAR), Revision 0, Docket No. 50-228, License No. R-98 (ADAMS Accession No. ML050680420) (excerpted) (ARRR USAR).
NRC-035	Adams	Letter from Alfredo Meren, Reactor Supervisor, Aerotest Operations, Inc., to NRC, Annual Summary of Changes, Tests and Experiments at Aerotest Radiography and Research Reactor (ARRR), Docket No. 50-228, for the period of 1 July 2011 to 30 June 2012 (July 31, 2012) (ADAMS Accession No. ML12242A343)
NRC-036	Adams	Letter from Michael Anderson, Secretary, Aerotest Operations, Inc., to NRC Document Control Desk, Docket No. 50-228 Aerotest Radiography and Research Reactor License No. R-98 (Jan. 7, 2011) (ADAMS Accession No. ML110180463)
NRC-037	Adams	Letter from Gregory Bowman, NRC, to Sandra Warren, General Manager, Aerotest Operations, Inc., NRC Non-Routine Inspection Report No. 50-228/2012-206 (Jan. 7, 2013) (ADAMS Accession No. ML12361A147)

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NRC-038	Adams	Email from Tony Veca, General Atomics, to Alexander Adams, NRC, RE: Typical fuel prices (May 6, 2014) (ADAMS Accession No. ML14160B044)
NRC-039	Adams	TRIGA Reactor Fuel Price List (Jan. 2012) (ADAMS Accession No. ML14160B051)
NRC-040	Lian/Simmons	Letter from Sandra Warren, General Manager of Aerotest Operations, Inc., Closure of Aerotest Operations (Aug. 6, 2010) (ADAMS Accession No. ML14129A199)
NRC-041	Lian/Simmons	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) (ADAMS Accession No ML12200A353)
NRC-042	Lian/Simmons	NUREG-1537, Part 1, Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors Format and Content (Feb. 1996) (ADAMS Accession No. ML042430055) (excerpted) (NUREG-1537, Part 1)
NRC-043	Adams	Letter from Alfredo Meren, Reactor Supervisor, Aerotest Operations, Inc., to NRC, Annual Summary of Changes, Tests, and Experiments at Aerotest Radiography and Research Reactor (ARRR), Docket No. 50-228, for the Period of 1 July 2010 to 30 June 2011 (July 28, 2011) (ADAMS Accession No. ML11217A011)
NRC-044	Lian/Simmons	Aerotest Operations, Inc., Consideration of Indirect Transfer and Conforming Amendment, 77 Fed. Reg. 72,889 (Dec. 6, 2012)
<b>NRC-045(P)</b>	<b>Adams/Lian/Simmons</b>	<b>Rebuttal Statement of Position (PROPRIETARY)</b>
<b>NRC-046(P)</b>	<b>Lian/Simmons</b>	<b>Rebuttal Testimony (PROPRIETARY)</b>

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NRC-047(P)	Adams	Rebuttal Testimony (PROPRIETARY)
NRC-048	Lian/Simmons	Letter from Michael S. Anderson, Secretary, Aerotest Operations, Inc. to NRC, Report of Progress Made Toward Completion of the License Transfer (Sept. 27, 2010) (ADAMS Accession No. ML102720404)
NRC-049	Lian/Simmons	Letter from Michael S. Anderson, Secretary, Aerotest Operations, Inc. to NRC, Report of Progress Made Toward Completion of the License Transfer (Oct. 13, 2010) (ADAMS Accession No. ML102880066)
NRC-050	Adams	NUREG-1537, Part 1, Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors Format and Content, Chapters 4 and 13 (Feb. 1996) (ADAMS Accession No. ML042430055) (excerpted) (NUREG-1537, Part 1, Chapters 4 and 13)
NRC-051	Adams	NUREG-1537, Part 2, Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors Standard Review Plan and Acceptance Criteria, Chapters 4 and 13 (Feb. 1996) (ADAMS Accession No. ML042430048) (excerpted) (NUREG-1537, Part 2, Chapters 4 and 13)