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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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In the Matter of: ) Docket No. 72-22;  
PRIVATE FUEL STORAGE, ) ASLBP No. 97-732-02-ISFSI  
L.L.C. )  
(Independent Spent Fuel )  
Storage Installation) )

**COPY**

U.S. Nuclear Regulatory Commission  
Sheraton Hotel

150 West 500 South, Wasatch Room

Salt Lake City, Utah 84101

Tuesday, June 20, 2000

The above-entitled matter came on for hearing,  
pursuant to notice, at 9:00 a.m.

BEFORE:

THE HONORABLE G. PAUL BOLLWERK, III

Administrative Judge

Atomic Safety & Licensing Board Panel

DR. JERRY R. KLINE

Administrative Judge

Atomic Safety & Licensing Board Panel

DR. PETER S. LAM

Administrative Judge

Atomic Safety & Licensing Board Panel

DOCKETED  
USNRC

August 8, 2005 (1:00pm)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

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4

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FOR THE SKULL VALLEY BAND OF GOSHUTE INDIANS:

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1	Applicant's Exhibit E - PFS Storage		
2	Facility/Railroad Preliminary		
3	Construction Cost Estimate,		
	5/13/00 _____	1846	1846
4	Applicant's Exhibit F - Two letters;		
5	Renzulli to Frantz/Parkyn to		
6	Frantz _____	1759	1759
7	State's Exhibit 16 - PFS Storage Facility		
8	Railroad Preliminary Cost Estimate		
	5/13/00 _____	1884	
9	State's Exhibit 20 - 12/12/98 Letter to		
10	DeLong from Agace _____	1911	1913
11	State's Exhibit 31 - NEIL Primary Policy		
12	For April 1, 2000 _____	1836	
13			
14	State's Exhibit 32 - Financial Plan,		
15	Skull Valley Band of Goshutes		
16	(12.8K MTU) _____	1902	1905
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P R O C E E D I N G S

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3 JUDGE BOLLWERK: We're on the record. Good  
4 morning, everyone. We're here this morning to continue  
5 the evidentiary hearing for the Private Fuel Storage  
6 proceeding. This morning we're going to be dealing, I  
7 guess, with the beginning of testimony for Contention E  
8 dealing with financial assurance.

9 As we announced yesterday, this session, this  
10 particular session dealing with Contention E is a closed  
11 session because it involves the use of confidential  
12 business information, proprietary information. You'll  
13 note that when you get the transcript it will be marked  
14 as such on each page, it involves a closed session. I  
15 would ask everyone as an administrative matter to help  
16 us out. We're going to try to monitor the back door to  
17 make sure that only folks that are on the list that we  
18 asked everyone to submit are in attendance.

19 I would also ask, particularly the applicant,  
20 if they could take a look around the room from time to  
21 time and if they see -- if anyone sees someone who  
22 doesn't belong to them, they don't recognize them, raise  
23 your hand stand and stop us and we'll check it out and  
24 make sure everything is as it should be. We want to  
25 protect the confidential nature of the information to

1 the degree we can. We may -- I think we checked names  
2 as we came in the door. We'll see how that's working.  
3 Maybe there's a system we can use to call out our names,  
4 various names out, I don't know. We'll see as we go  
5 along during the day. Each time we take a break, as  
6 people leave and come back in we're going to have to  
7 check in some way to make sure that everyone in the room  
8 is appropriately here. So, again, I would ask for your  
9 patience and we'll work through this problem as things  
10 move along.

11 Let me raise a question about the scheduling.  
12 The proposed schedule we were given by the parties, I  
13 guess with Mr. Gase and Takacs -- am I pronouncing that  
14 correctly?

15 MR. SILBERG: Yes.

16 MR. BOLLWERK: Mr. Parkyn on construction and  
17 Kapitz on operation and maintenance and then Mr. Pickerl  
18 on insurance. He also needs to catch a 4:15 flight.

19 MR. SILBERG: That's correct.

20 MR. BOLLWERK: Is there anything we need to  
21 think about in terms of the order of those witnesses to  
22 make sure he gets his plane?

23 MR. SILBERG: Having discussed it with the  
24 state, I guess our preference would be to break the  
25 testimony of Mr. Gase and Tackacs if we haven't finished

1     sometime before lunch, perhaps 11:00, 11:30, and to put  
2     Mr. Pickerl on at that point so that we can have -- make  
3     sure that all the cross of him gets completed and all  
4     the redirect and recross so that he can leave here at I  
5     guess about three o'clock at the latest.

6             MS. CHANCELLOR: Your Honor, we would prefer  
7     not to break in the middle of the testimony of Mr. Gase  
8     and Mr. Takacs. We believe if we start by one o'clock  
9     we certainly would be through by 3:00.

10            MR. SILBERG: That may or may not be depending  
11     on how much cross-examination we have. I don't want to  
12     be in a position where we run out of time to put on  
13     redirect or rebuttal. I think we have also talked about  
14     the possibility that if there is any rebuttal of Mr.  
15     Pickerl, to do that now so that he doesn't have to come  
16     back. It will be kind of the same anticipatory rebuttal  
17     that we talked about yesterday.

18            MS. CHANCELLOR: I don't know that we talked  
19     about that.

20            JUDGE BOLLWERK: Well, let's see if we can  
21     deal with it at the time. Obviously, it would be better  
22     if we can deal with him all at once while he's here. If  
23     there's a problem we will have to revisit it and see  
24     what else needs to be done.

25            All right. Let's see where we're at about

1 eleven o'clock. Let's visit at that point and see where  
2 everyone is at, see what we need to do. And you think  
3 you can do it in about an hour or two hours, maybe, if  
4 he needs to leave by 3:00 and you're starting by 1:00?

5 MS. CHANCELLOR: Yes.

6 JUDGE BOLLWERK: Well, let's keep that in mind  
7 and see where we're at about eleven o'clock.

8 MR. SILBERG: Part of that depends, obviously,  
9 on how much cross-examination is going to be the  
10 governing effort, and we don't know how much.

11 JUDGE BOLLWERK: All right. Any other  
12 administrative matters that the parties need to bring to  
13 the attention of the Board at this time?

14 MR. TURK: I have one matter to conclude from  
15 yesterday, Your Honor.

16 MR. BOLLWERK: All right.

17 MR. TURK: At the end of the hearing session  
18 yesterday Your Honor had asked me to introduce an  
19 Exhibit which I have marked as Staff Exhibit B. That  
20 was the NFPA 600, 2000 edition. I have distributed  
21 copies to the Board members and given copies to the  
22 reporter. Yesterday evening I was able to get one to  
23 the State of Utah and I have given a copy to the  
24 applicant this morning. I would ask at this time that  
25 Staff Exhibit B, previously identified, now be admitted

1 into evidence.

2 MR. BOLLWERK: Any objection to the admission  
3 of Staff Exhibit B?

4 MR. SILBERG: No.

5 MR. BOLLWERK: Hearing none, then staff  
6 Exhibit B is admitted into evidence.

7 [Staff's Exhibit B was  
8 received in the record.]

9 MR. TURK: I have one other matter I would  
10 like to take care of at this time. I would like to  
11 introduce to the Board members and the parties Mr.  
12 William Brock who is sitting behind me. Mr. Brock once  
13 the director of the Spent Fuel Office at the NRC.

14 JUDGE BOLLWERK: All right.

15 No other administrative matters, then why  
16 don't we move to the direct testimony of Mr. Gase and  
17 Mr. Takacs and if those two gentlemen would come forward  
18 and be seated, please.

19 At this point I think it would be best if we  
20 closed the door in the back of the room. Would you do  
21 that? Thank you.

22 All right. Mr. Gase, could you raise your  
23 right hand, please, sir?

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JOSEPH F. GASE

called as a witness on behalf of the Applicant, having been first duly sworn, was examined and testified as follows:

GEORGE TAKACS

called as a witness on behalf of the Applicant, having been first duly sworn, was examined and testified as follows:

JUDGE BOLLWERK: Gentlemen, you are sworn and under oath. Mr. Silberg.

DIRECT EXAMINATION

BY MR. SILBERG:

Q. Yes. If I could show the witnesses some documents to get them to identify. First, showing you a document entitled "Testimony of Joseph F. Gase and George L. Takacs, IV, on PFSF Construction Costs, Contention E/Confederated Tribes F, it's 22-page document.

Was this document prepared by you or under your direct supervision and control?

A. (Witness Gase) Yes.

A. (Witness Tackacz) Yes.

Q. Are there any corrections that you would wish to make in the document?

1           A.    We have two corrections.  On page 16 at the  
2 answer to question -- at the bottom of the page, making  
3 reference to building shell it says "masonry exterior."  
4 We need to change the masonry exterior to pre-engineered  
5 building.

6           MR. CURRAN:  At which page is this?

7           MR. BOLLWERK:  Page 16 at the bottom, the very  
8 last one.

9           A.    (Witness Tackacz)  Page 16 at the bottom.  Do  
10 you see in parentheses where it says "masonry exterior?"  
11 It's a pre-engineered building.

12          Q.    So you would change the words "building shell  
13 (masonry exterior)" to --

14          A.    (Witness Takacs)  In the parentheses I would  
15 change the "masonry exterior" to read "pre-engineered  
16 building."

17          Q.    So it would read "building shell  
18 (pre-engineered building), correct?"

19          A.    (Witness Takacs)  Yes.

20          Q.    Any other changes?

21          A.    (Witness Takacs)  On page 21, also the last  
22 paragraph at the bottom of the page midway through  
23 there's the -- this is in answer 80, there is a quantity  
24 there of 1.4 billion square yards.  This project is not  
25 quite that big, it's 1.4 million, so scratch the 3 last

1 zeros.

2 Q. Are those the only corrections you found?

3 A. (Witness Takacs) Yes.

4 Q. And showing you, Mr. Gase, a two-page  
5 document, numbered Attachment 1, is this your resume and  
6 is it true and correct, to the best of your knowledge  
7 and belief, and was it prepared by you or under your  
8 direction and control?

9 A. (Witness Takacs) Yes, it was.

10 Q. And Mr. Takacs, showing you a four-page --  
11 sorry, four-page document, Attachment 2 up on top, is  
12 this your resume and was it prepared by you or under  
13 your direct supervision and control?

14 A. (Witness Takacs) Yes, it is.

15 Q. And is it true and correct to the best of your  
16 knowledge and belief?

17 A. Yes.

18 Q. And left me show you a fourth document, it's I  
19 believe eight pages on long paper and it's entitled  
20 "PFS Const" for construction estimate and it says in the  
21 upper right-hand corner "PFS Exhibit D." Was this  
22 document prepared by you or under your direct  
23 supervision and control?

24 A. (Witness Takacs) Yes, it is.

25 Q. And is it true and correct, to the best of

1 your knowledge and belief?

2 A. (Witness Takacs) Yes.

3 MR. SILBEY: Mr. Chairman, I would like to  
4 hand the reporter the documents that we had just  
5 identified. I would ask that the testimony of Mr. Gase  
6 an Mr. Takacs and their two resumes be incorporated in  
7 the transcript at this point as if read, and that  
8 Exhibit D, which they had also identified be admitted  
9 into evidence as Applicant's Exhibit D.

10 JUDGE BOLLWERK: All right. And the  
11 testimony, the corrections that have been made, you'll  
12 make those on the testimony?

13 MR. SILBERG: The corrections have been made  
14 on the testimony.

15 JUDGE BOLLWERK: Very good. Then at this  
16 point the testimony of Mr. Gase and Mr. Takacs, excuse  
17 me, and the two attachments, if there is no objections,  
18 will be entered into the record as if read.

19 MR. CURRAN: No objections.

20 JUDGE BOLLWERK: Hearing no objection, they  
21 will be entered into the record and bound in with the  
22 transcript at this point.

23 {Whereupon, the direct written  
24 testimonies of Messrs. Gase and  
25 Takacs were inserted in the record.]

June 15, 2000

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
PRIVATE FUEL STORAGE L.L.C.	)	Docket No. 72-22
	)	
(Private Fuel Storage Facility)	)	ASLBP No. 97-732-02-ISFSI

TESTIMONY OF JOSEPH F. GASE AND GEORGE L. TAKACS IV  
ON PFSF CONSTRUCTION COSTS  
CONTENTION UTAH E/CONFEDERATED TRIBES F  
(Revised per Board Order of June 12, 2000)

I. BACKGROUND

Q1. Please state your name (Gase).

A1. Joseph F. Gase

Q2. Please state your name (Takacs).

A2. George L. Takacs IV

Q3. Mr. Gase, by whom are you employed and what is your position?

A3. I am currently employed by Stone & Webster as Manager of Project Controls and Resource Staffing for Stone & Webster's Denver office.

Q4. Mr. Gase, please summarize your educational and professional qualifications.

A4. I received a Bachelor's of Science in Civil Engineering from the Indiana Institute of Technology in 1971. I have worked in the Engineering and Construction industry for 29 years, as a construction engineer, cost estimating engineer, and

supervisor, all at Stone & Webster. Additional information is set forth in my resume, which is attached to this testimony as Attachment 1.

Q5. Mr. Gase, what is your experience with estimating construction costs?

A5. During my career at Stone & Webster, I have participated in and led the estimating efforts on large scale construction projects, involving both the home office engineering and field construction efforts. As an example, I was the lead estimator on the following projects:

R. L. Ferguson and Associates – total project estimates for study efforts associated with the Department of Energy's Fast Flux Test Facility Power Addition project at the Hanford, Washington site.

Department of Energy - project estimates for control room upgrades for the N reactor at DOE's Hanford, Washington site.

Western Fuels-Utah, Inc. - estimates supporting design and construction efforts for a 38-mile captive coal transportation rail system and support systems, including 3.5 miles of overland conveyors and storage systems on the Colorado-Utah border.

Q6. Mr. Takacs, by whom are you employed and what is your position?

A6. I am currently employed by Stone & Webster as a principal estimating engineer.

Q7. Mr. Takacs, please summarize your educational and professional qualifications.

A7. I received a bachelor of science degree in construction engineering technology from Montana State University in 1974. I have 25 plus years experience in estimating, cost control, planning and scheduling. I am currently responsible for all estimating work for Stone & Webster's Denver office. I am a member of the American Association of Cost Engineers, past president of the local section, as well as past vice-chairman of the Association's cost estimating committee. Additional information is set forth in my resume, which is attached to this testimony as Attachment 2.

Q8. Mr. Takacs, what is your experience with estimating construction costs?

A8. I have 25 years of estimating experience in the construction industry. I have prepared conceptual estimates through lump sum bid estimates for various power,

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process, industrial and government facilities. I have prepared estimates for projects at the Department of Energy's Rocky Flats, Idaho, Savannah River, and Richland facilities. Within the past year I have prepared a lump sum bid for a nuclear spent fuel repackaging and storage facility at the Department of Energy's Idaho National Engineering & Environmental Laboratory.

Q9. Are you familiar with the design and construction plans for the Private Fuel Storage Facility ("PFSF")? (Gase and Takacs)

A9. Yes.

Q10. Describe your roles and the roles of others who participated in the preparation of the PFS cost estimate that is the subject of your testimony. (Gase and Takacs)

A10. The detailed estimating effort for all work was performed by Mr. Takacs. Mr. Gase was responsible for reviewing the overall estimating effort for reasonableness.

Q11. What is the purpose of your testimony? (Gase and Takacs)

A11. The purpose of this testimony is to respond to the allegations in Basis 6 of Contention Utah E/Confederated Tribes F that, "The Applicant has failed to show that it has the necessary funds to cover the estimated costs of construction . . . of the proposed ISFSI because its cost estimates are vague, generalized, and understated" by describing the process by which the detailed construction cost estimates for which we were responsible were developed, describing those estimates, and demonstrating their reasonableness.

Q12. Is the cost estimate identified as PFS Exhibit D the construction cost estimate prepared by Stone & Webster for the PFSF? (Gase and Takacs)

A12. Yes.

Q13. In your professional opinion, on the basis of your knowledge of the design and construction plans for the PFSF, do you consider this PFSF cost estimate to be a reasonable one? (Gase and Takacs)

A13. Yes.

~~PROPRIETARY INFORMATION~~

Q14. Briefly describe the PFSF cost estimate. (Gase and Takacs)

A14. The PFSF cost estimate is a conceptual estimate, based on the preliminary drawings, for the labor and materials costs for constructing those portions of the PFSF identified in PFS Exhibit D. Because detailed design drawings are not available for most of the facilities at this stage, the estimate relies heavily on our estimating judgment and experience. This process is typical and appropriate for a project at the stage of the PFSF project.

Q15. How were the costs for the PFSF estimated (Gase and Takacs)?

A15. The cost estimate is based on information received from the PFSF project at the start of the estimating effort, including a set of drawings and design criteria for the Storage Facility, Balance of Facility, and the Intermodal Transfer Point. The drawings included floor plan and exterior elevations for the Administration Building, Operations and Maintenance Building, Security and Health Physics Building, Canister Transfer Building and the structures at the Intermodal Transfer Point. Structural drawings were included for the cask storage pads and the Canister Transfer Building. The electrical one-line diagram, site lighting drawing and a site plan general arrangement were also available. Based on this information and discussions with PFSF project engineers, we generated a quantity take-off of the building components on which cost estimates could be made.

Based on the above generated quantities, the estimate was priced using the following sources: Means and/or Richardson's cost manuals, Stone & Webster database, past studies done on this project and other recent projects, and vendor quotations. Means and Richardson are companies that offer historical construction cost data through their many publications. These publications give information on craft labor rates, crew composition, construction equipment rental cost, labor productivity information, and material and labor pricing for thousands of construction activities. The information in both Means and Richardson's has been accepted by contractors, architect/engineers and government agencies throughout the United States, and constitute standard, generally accepted cost

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estimating references used by cost estimators. The Stone & Webster database is a collection of expected costs that Stone & Webster has derived from previous cost estimates, price quotes, project bids and experience. Labor pricing assumes a fully subcontracted construction approach, with a standard 40 hour work week. Labor rates used were for the Salt Lake City area, as obtained from the Mean's 1999 Labor Rates for the Construction Industry. Crew rates were developed based on a blend of craft for performing the various construction tasks and include base wage, fringe benefits, taxes and insurance, supervision, contractor's field office, small tools, equipment rental, overhead and profit.

Within the PFSF cost estimate, estimating judgment and experience were used to develop "allowances" for specific components of the PFSF for which detailed information was not available. An allowance is simply a conservative cost estimate that is based on typical requirements for a project prior to the availability of design drawings for quantity takeoffs. The use of allowances is standard engineering practice for cost estimation for aspects of a project whose design is still in the conceptual stage. For example, allowances were included for the site wells and the septic system for water supply and waste disposal. Also, an allowance for water requirements during earthmoving operation has been included.

Finally, as explained in more detail later, a [REDACTED] contingency has been included. The contingency is included to account for changes in designs, and unanticipated project costs. A contingency of [REDACTED] is consistent with standard estimating practice for the level of detail of this cost estimate for this type of work.

Q16. In what year's dollars are the cost estimates presented? (Gase and Takacs)

A16. All costs are 4<sup>th</sup> Quarter 1999 dollars.

Q17. How were the components of the PFSF divided for preparation of the cost estimate? (Takacs)

A17. To prepare the cost estimate, the facilities were divided into four major areas:

~~PROPRIETARY INFORMATION~~

1. Storage Facility: The storage facility consists of all site preparation work within the security fence line, the perimeter security fence, yard lighting and underground ductbank, cask storage pads and the Canister Transfer Building.
2. Balance of Facility: The balance of facility consists of the site access road, perimeter road, water supply, sanitary disposal system, and all costs associated with the Security and Health Physics Building, Administration Building and the Operations and Maintenance Building.
3. Transportation Infrastructure: The transportation infrastructure consists of rail siding work and structures at the Intermodal Transfer Point.
4. Low Railroad Line: The Low Railroad Line consists of all costs associated with construction of a rail line from the Union Pacific main line at Low to the PFSF site, about 32 miles to the south.

A. Overview of Construction Costs

Q18. How will construction of the PFSF be staged? (Takacs)

A18. The construction of the PFSF will take place in three Phases. In Phase I, the structures, systems and components necessary for the operation of the minimum planned initial capacity storage facility, i.e. [REDACTED] metric tons of uranium (MTU), will be constructed. Specifically, Phase I will include the storage facility for [REDACTED] cask storage pads, associated site work, yard lighting, perimeter fence and security system, and the Canister Transfer Building. Also, in the first phase is the Balance of Facility, which includes the water supply and waste disposal systems, site access road, Security and Health Physics Building, Administration Building and the Operations and Maintenance Building. All costs associated with the Low Railroad Line are also included in Phase I, based on the assumption that the railroad will be selected as the primary transportation option. (This later assumption is conservative because the railroad transportation option costs are greater than the alternative, heavy-haul option.)

Phase II of the construction will include all sitework, concrete work, lighting and perimeter fence necessary to add [REDACTED] additional storage pads, which will increase the facility's capacity to 20,000 MTU.

Phase III of the construction will include all sitework, concrete work, lighting and perimeter fence necessary to add the final [REDACTED] storage pads. After construction of Phase III is completed, the PFSF will have reached its ultimate storage capacity of 40,000 MTU.

Q19. What costs make up the construction costs estimated by Stone & Webster for the PFSF? (Gase and Takacs)

A19. The construction costs for the PFSF estimated by Stone & Webster as part of this estimate are divided into the following categories:

- Site Work
- Yard Electrical Work
- Security Equipment
- Canister Transfer Building
- Cask Storage Pads
- Water and Sanitary
- Access Road and Parking
- Security and Health Physics Building
- Administration Building
- Operations and Maintenance Building
- Transportation Costs
- Miscellaneous Items
- Contingencies

## II. CONSTRUCTION COSTS FOR PHASE I OF THE PFSF

### A. Site Work Costs

Q20. What items are included in the site work costs for the PFSF? (Takacs)

A20. The site work costs include clearing the site, excavation and backfill, construction of the flood protection berms, and the soil stabilization program. Specifically, the cost estimate includes clearing [REDACTED] acres, stabilizing [REDACTED] yd<sup>2</sup> of soil, backfilling and compacting [REDACTED] yd<sup>3</sup> of structural fill, and backfilling and compacting [REDACTED] yd<sup>3</sup> of gravel fill. The site work cost estimate also includes the excavation and labor for constructing the retention pond.

Q21. What is the total cost estimate for site work for the PFSF? (Takacs)

A21. Approximately [REDACTED].

Q22. What is the basis for the estimate of the site work costs for the PFSF? (Takacs)

A22. Based on the site plan general arrangement and the design criteria for the Storage Facility, and discussions with project engineers, we prepared a quantity take-off of the components of the site work. As generally described in the response to Question 15, we used the quantities developed from the take-off in conjunction with cost estimating references to develop the conceptual level cost estimate for the project's site work.

Q23. Given your knowledge and professional experience, is this reasonable? (Gase)

A23. Yes, given the fact that approximately [REDACTED] of the total site work estimate is the cost of soil stabilization, which is based on historical information previously validated by contractor bids.

**B. Yard Electrical Work Costs**

Q24. What items are included in the yard electrical work costs for the PFSF? (Takacs)

A24. The cost estimate for the yard electrical work includes lighting poles and fixtures, the electrical ductbank, and the cost of connecting the PFSF to existing utility lines. Specifically, the cost estimate includes [REDACTED] electrical manholes, [REDACTED] linear feet of ductbank, [REDACTED] light poles, and [REDACTED] miles of power lines.

Q25. What is the total cost estimate for yard electrical work for the PFSF? (Takacs)

A25. Approximately \$ [REDACTED]

Q26. What is the basis for the estimate of the yard electrical work costs for the PFSF? (Takacs)

A26. A site lighting plan and the design criteria for the PFS project site were available. Based on this information and discussions with the project engineers, a quantity take-off of the materials needed was generated by the estimator. Also, quotes were obtained from a local supplier for the 120 foot fixtures, and the other lighting components were priced from our own database. The cost estimate for the power lines was based on the estimated materials and labor for [REDACTED] miles of power lines on wooden poles. Using these quantities in conjunction with cost

estimating references and the vendor quote, a conceptual level cost estimate was developed for the project's electrical yard work.

Q27. Given your knowledge and professional experience, is this reasonable? (Gase)

A27. Yes. Because the costs for a major portion of the yard lighting were based on quotes from a local supplier for interstate highway lighting fixtures, which are anticipated to be similar to those planned for the PFSF, and much of the remaining costs are based on historical estimating data of Stone and Webster, the cost estimate is reasonable.

C. Security Equipment Costs

Q28. What items are included in the cost estimate for the security equipment for the PFSF? (Takacs)

A28. The cost estimate for the security equipment includes costs for [REDACTED] linear feet of 8 foot high security fencing, [REDACTED] security gates and the security system, including cameras and intrusion detectors and related equipment along with alarm stations.

Q29. What is the total cost estimate for the security equipment for the PFSF? (Takacs)

A29. \$ [REDACTED]

Q30. What is the basis for the estimate of the security equipment costs for the PFSF? (Takacs)

A30. The site plan general arrangement and the design criteria for the PFS project site were available. The perimeter security fence for the PFSF project is very similar to a project for a government facility in Idaho for which Stone and Webster provided a lump sum bid. This project also included a double row of fence, motion detectors, cameras and alarm systems. The costs were adjusted to reflect the difference in site perimeter.

Q31. Given your knowledge and professional experience, is this reasonable? (Gase)

A31. Yes. These costs are based on a previous lump sum bid for a similar project that was developed based on quantity take-offs and vendor quotes.

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**D. Canister Transfer Building Costs**

**Q32.** What items are included in the Canister Transfer Building costs for the PFSF? (Takacs)

**A32.** Costs for the Canister Transfer Building include excavation/backfill, foundation concrete, slab on grade, building shell (concrete structure), interior finish (wall system, floor treatment, ceiling treatment), special shielding doors, furnishings, plumbing, HVAC, fire protection, electrical and transfer crane. Specifically, the cost estimate for the Canister Transfer Building includes excavation of [REDACTED] yd<sup>3</sup> of materials, [REDACTED] yd<sup>3</sup> of compacted backfill, [REDACTED] sf of various forms for concrete, [REDACTED] tons of reinforcing rebar, [REDACTED] yd<sup>3</sup> of concrete, a 200 ton capacity bridge crane and a 150 ton capacity semi-gantry crane. In addition, the estimate includes doors, flooring, walls, bathrooms, and interior electrical equipment.

**Q33.** What is the total cost estimate for constructing the Canister Transfer Building for the PFSF? (Takacs)

**A33.** Approximately \$ [REDACTED]. This includes approximately [REDACTED] for the cranes (based on a bid received from the crane vendor as discussed below).

**Q34.** What is the basis for the estimate of the Canister Transfer Building costs for the PFSF? (Takacs)

**A34.** As generally described in the response to Question 15, a detailed quantity take-off of the components of the Canister Transfer Building was generated using the detailed structural drawings, including the floor plan, exterior elevations, electrical one-line diagram, and design criteria for the Canister Transfer Building. Because more detailed drawings were available for the Canister Transfer Building, a more precise quantity take-off was developed. This quantity take-off was further refined following discussions with the project engineers. Also, a quote based on the technical specifications for the cranes was received from a crane vendor. These estimated quantities in conjunction with cost estimating references, along with the quote for the cranes, were then used to develop the conceptual level cost estimate for the Canister Transfer Building.

**Q35.** Given your knowledge and professional experience, is this reasonable? (Gase)

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A35. Yes. Although there is no comparable cost for this structure in Means due to the unique nature of the structure and although the cost/sf may appear high, based on our estimating judgment and experience, the [REDACTED] cost appears reasonable for a concrete frame structure meeting the design criteria for the Canister Transfer Building. Because of the seismic and nuclear QA criteria, and the high ceiling height, the high cost/sf is justified. The cost also includes a quotation for a heavy bridge crane and a semi-gantry crane.

E. Cask Storage Pads Costs

Q36. What items are included in the cask storage pad costs for the PFSF? (Takacs)

A36. The costs for the cask storage pad include excavation, backfill, formwork, rebar, and concrete to construct the storage pads. For each storage pad, the cost estimate includes [REDACTED] sf of forms, [REDACTED] yd<sup>3</sup> of concrete, and [REDACTED] tons of reinforcing steel. In addition, the estimate includes a cask temperature monitoring system to monitor air temperature at the casks' outlet ducts and a radiation monitoring system.

Q37. What is the total cost estimate for constructing the cask storage pads for a [REDACTED] MTU PFSF capacity? (Takacs)

A37. Approximately [REDACTED]. This includes about [REDACTED] for the temperature monitoring system.

Q38. What is the basis for the estimate of the cask storage pad costs for the PFSF? (Takacs)

A38. As generally described in the response to Question 15, a detailed quantity take-off of the cask storage pads was generated using the detailed structural drawing of the storage pads and design criteria for the storage pads. Because a more detailed drawing was available for the Cask Storage Pads, a more precise quantity take-off was developed. This quantity take-off was further refined following discussions with the project engineers. In addition, the estimate includes a cost for the cask temperature monitoring system based on prices received by the project engineers from vendors of temperature monitoring systems. We then used these estimated quantities in conjunction with cost estimating references and the vendors' prices

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for cask temperature monitoring systems to develop the conceptual level cost estimate for the cask storage pads.

Q39. Given your knowledge and professional experience, is this cost reasonable? (Gase)

A39. Yes. This is a unique component to the facility but represents routine concrete construction and [REDACTED]/yd<sup>3</sup> should be more than adequate. The cost will be higher than a typical concrete structure constructed on grade because the pads are designed to withstand seismic forces and to satisfy NRC quality assurance requirements.

F. Water and Sanitary Costs

Q40. What items are included in the water and sanitary costs for the construction of the PFSF? (Takacs)

A40. The cost estimate for the PFSF's water and sanitary needs includes an allowance for wells, storage tanks, pumps, septic system and piping.

Q41. What is the total cost estimate for water and sanitary for the PFSF? (Takacs)

A41. Approximately [REDACTED]

Q42. What is the basis for the estimate of the water and sanitary costs for the PFSF? (Takacs)

A42. Within the PFSF cost estimate, estimating judgment and experience were used to develop "allowances" for specific components of the PFSF project for which detailed information was not available such as the water supply and waste handling facilities. The water supply was estimated to include two wells of an assumed size and depth, an allowance for well pumps, storage tanks, fire protection pumps and pumphouse, and piping. An additional allowance of 25% was added to this account. Sanitary sewer costs were assumed to be half of the water supply cost.

Q43. Given your knowledge and professional experience, is this reasonable? (Gase)

A43. Yes. Although this is an allowance item and the scope has not been fully defined, the cost estimate is based on standard items necessary to meet the estimated water and sanitary requirements and appears reasonable.

**G. Roads and Parking**

Q44. What items are included in the roads and parking costs for the PFSF? (Takacs)

A44. The cost estimate for Roads and Parking includes the earthwork, drainage structures, paving, etc. required for the site access road, the parking lot on the PFSF site for employees and visitors, and the perimeter road surrounding the Restricted Area (comprised of the cask storage pads, the Canister Transfer Building, and the Security and Health Physics Building). As detailed in PFS Exhibit D, the estimate for the parking surfaces includes costs for [REDACTED] yd<sup>2</sup> of 8" deep concrete and [REDACTED] yd<sup>2</sup> of 6" deep crushed stones.

Q45. What is the total cost estimate for constructing the access road for the PFSF? (Takacs)

A45. Approximately [REDACTED]

Q46. What is the basis for the estimate of the access road costs for the PFSF? (Takacs)

A46. Using the site access road design drawings, estimates were prepared for the road materials that would be required.

Q47. Given your knowledge and professional experience, are these costs reasonable? (Gase)

A47. Yes. This is approximately [REDACTED] which appears more than adequate for a road of this type.

Q48. What is the total cost estimate for constructing parking for the PFSF and the perimeter road surrounding the restricted area? (Takacs)

A48. Approximately [REDACTED]

Q49. What is the basis for the estimate of the perimeter road and parking costs for the PFSF? (Takacs)

A49. As generally described in the response to Question 15, a quantity take-off of the materials for the perimeter road and parking areas was generated using the

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project's conceptual drawings, and design criteria for the Balance of Facility. In addition, the quantity take-off was further refined following discussions with the project engineers. These estimated quantities were then used in conjunction with cost estimating references to develop the conceptual level cost estimate for Roads and Parking.

Q50. Given your knowledge and professional experience, are these costs reasonable? (Gase)

A50. Yes. The cost estimate for the perimeter road and parking area was developed using standard labor and materials rates for common construction items, and is reasonable.

H. Security and Health Physics Building Costs

Q51. What items are included in the Security and Health Physics Building costs for the PFSF? (Takacs)

A51. Costs for the Security and Health Physics Building include excavation/backfill, foundation concrete, slab on grade, building shell (masonry exterior), interior finish (wall system, floor treatment, ceiling treatment), furnishings, plumbing, HVAC and electrical. Specifically, the cost estimate for the Security and Health Physics Building includes excavation of [REDACTED] yd<sup>3</sup> of materials, [REDACTED] yd<sup>3</sup> of compacted backfill, [REDACTED] sf of various forms for concrete, [REDACTED] tons of reinforcing rebar, [REDACTED] yd<sup>3</sup> of concrete, [REDACTED] sf of masonry wall, [REDACTED] tons of structural steel, [REDACTED] sf of metal deck, and [REDACTED] feet of membrane roofing. In addition, the estimate includes furnishings for the building, including doors, carpeting, ceilings, walls, lockers, bathrooms, furniture, communication systems, sprinkler systems, security systems, interior electrical equipment, and an emergency 100 KW diesel generator.

Q52. What is the total cost estimate for constructing the Security and Health Physics Building for the PFSF? (Takacs)

A52. Approximately [REDACTED]

Q53. What is the basis for the estimate of the Security and Health Physics Building costs for the PFSF? (Takacs)

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A53. As generally described in the response to Question 15, a quantity take-off of the building components was generated using the conceptual drawings, including the floor plan, exterior elevations, electrical one-line diagram, and design criteria for the Security and Health Physics Building. In addition, the quantity take-off was further refined following discussions with the project engineers. We then used these estimated quantities in conjunction with cost estimating references to develop the conceptual level cost estimate for the Security and Health Physics Building.

Q54. Given your knowledge and professional experience, is this cost reasonable? (Gase)

A54. Yes. On a \$ /sf basis, the cost for the Security and Health Physics Building is about [REDACTED]. There are no direct comparisons to this type of structure but Means offers the following as a check: offices [REDACTED] jails [REDACTED] clinics [REDACTED]. The cost of the Security and Health Physics Building is expected to be somewhat higher than most of these building types because this building's cost estimate includes allowances for furniture, security equipment, Uninterrupted Power Supply ("UPS") system and backup diesel generator. These items are not typically included as part of the building cost. Thus, the cost estimate of [REDACTED] for the Security and Health Physics Building is reasonable and conservative.

**I. Administration Building Costs**

Q55. What items are included in the Administration Building costs for the PFSF? (Takacs)

A55. Costs for the Administration Building include excavation/backfill, foundation concrete, slab on grade, building shell (pre-engineered building), interior finish (wall system, floor treatment, ceiling treatment), kitchen equipment, furnishings, plumbing, HVAC and electrical. Specifically, the cost estimate for the Administration Building includes excavation of [REDACTED] yd<sup>3</sup> of materials, [REDACTED] yd<sup>3</sup> of compacted backfill, [REDACTED] sf of various forms for concrete, [REDACTED] tons of reinforcing rebar, [REDACTED] yd<sup>3</sup> of concrete, and a [REDACTED] square foot ("sf") pre-engineered building. In addition, the estimate includes furnishings for the

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building, including doors, flooring, ceilings, walls, bathrooms, furniture, communication systems, sprinkler systems and interior electrical equipment.

Q56. What is the total cost estimate for constructing the Administration Building for the PFSF? (Takacs)

A56. Approximately [REDACTED]

Q57. What is the basis for the estimate of the Administration Building costs for the PFSF? (Takacs)

A57. As generally described in the response to Question 15, a quantity take-off of the building components was generated using the conceptual drawings, including the floor plan, exterior elevations, electrical one-line diagram, and design criteria for the Balance of Facility. In addition, the quantity take-off was further refined following discussions with the project engineers. We then used these estimated quantities in conjunction with cost estimating references to develop the conceptual level cost estimate for the Administration Building.

Q58. Given your knowledge and professional experience is this cost reasonable? (Gase)

A58. Yes. On a \$/sf basis, the cost for the Administration Building is about [REDACTED]. According to Means, typical costs per square foot for a low-rise office building range from [REDACTED]. The cost of the Administration Building is expected to be slightly higher than typical low-rise (1-4 stories) office buildings because the cost includes allowances for furniture and kitchen equipment which are not normally included as part of building cost. Thus, because the cost estimate for the Administration Building is more than [REDACTED] higher than the highest typical value for a comparable building, the estimate for the PFSF is reasonable and conservative.

**J. Operations and Maintenance Building Costs**

Q59. What items are included in the Operations and Maintenance Building costs for the PFSF? (Takacs)

A59. Costs for the Operations and Maintenance Building include excavation/backfill, foundation concrete, slab on grade, building shell (<sup>pre-engineered buildings</sup> masonry exterior), interior

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finish (wall system, floor treatment, ceiling treatment), furnishings, plumbing, HVAC and electrical. Specifically, the cost estimate for the Operations and Maintenance Building includes excavation of [REDACTED] yd<sup>3</sup> of materials, [REDACTED] yd<sup>3</sup> of compacted backfill, [REDACTED] sf of various forms for concrete, [REDACTED] tons of reinforcing rebar, [REDACTED] yd<sup>3</sup> of concrete, [REDACTED] sf of masonry wall, a [REDACTED] sf pre-engineered building, and a fenced laydown area. In addition, the estimate includes furnishings for the building, including doors, flooring, ceilings, walls, lockers, bathrooms, furniture, communication systems, sprinkler system, and interior electrical equipment.

Q60. What is the total cost estimate for constructing the Operations and Maintenance Building for the PFSF? (Takacs)

A60. Approximately [REDACTED]

Q61. What is the basis for the estimate of the Operations and Maintenance Building costs for the PFSF? (Takacs)

A61. As generally described in the response to Question 15, a quantity take-off of the building components was generated using the conceptual drawings, including the floor plan, exterior elevations, electrical one-line diagram, and design criteria for the Balance of Facility. In addition, the quantity take-off was further refined following discussions with the project engineers. These estimated quantities were then used in conjunction with cost estimating references to develop the conceptual level cost estimate for the Operations and Maintenance Building.

Q62. Given your knowledge and professional experience, is this cost reasonable? (Gase)

A62. Yes. The cost for the PFSF Operations and Maintenance Building is about [REDACTED]. According to Means, costs/sf for comparable type of facilities, i.e., municipal garages, range from [REDACTED]. Costs for this building are toward the high range for similar structures because the costs here include allowances for furniture, accessories, loading dock equipment, etc. Based on these ranges, the cost estimate of [REDACTED] for the Operations and Maintenance Building is reasonable and conservative.

**K. Transportation Construction Costs**

**Q63.** What items are included in the transportation construction costs? (Takacs)

**A63.** The estimate for transportation costs is based on the items needed for construction of the Low Railroad Line, including site clearing, cut and fill, drainage structures, ballast, ties, rail, and turnouts. Specifically, the cost estimate includes [REDACTED] yd<sup>3</sup> of cut, [REDACTED] yd<sup>3</sup> of fill, [REDACTED] yd<sup>3</sup> of sub-ballast, [REDACTED] linear feet of trackwork and [REDACTED] railroad turnouts.

**Q64.** Are the costs for the Intermodal Transfer Point included in the PFSF cost estimate? (Takacs)

**A64.** No. The costs for constructing the Intermodal Transfer Point are not included in the total for the PFSF construction cost estimate because the Low Railroad Line will be PFS's primary transportation option. Because the costs for constructing the Low Railroad Line are greater than the costs for the Intermodal Transfer Point option, the estimate based on the railroad is conservative. Note, however, that the costs of the Intermodal Transfer Point are listed on the last page of PFS Exhibit D.

**Q65.** What is the total cost estimate for construction of the Low Railroad line to the PFSF? (Takacs)

**A65.** Approximately [REDACTED]

**Q66.** What is the basis for the estimate of the Low Railroad Line costs for the PFSF? (Takacs)

**A66.** Quantities were developed by the engineers for cut/fill, ballast and subballast, length of rail and drainage structures. The estimate was then priced for labor and material based on another recent Stone and Webster railroad project which was recently bid for construction.

**Q67.** Given your knowledge and professional experience, is this reasonable? (Gase)

**A67.** Yes. The cost of this railroad line with no unique features compares favorably to another railroad recently bid and is reasonable.

L. Miscellaneous Items

Q68. Did you provide estimates for any other items for the PFSF? (Takacs)

A68. Yes. I provided an estimate of the cost for a 50-ton capacity mobile crane and provided a \$/sf cost estimate for the Visitor's Center as a comparison for the estimate contained in the PFS Business Plan.

Q69. What are the cost estimates for these items? (Takacs)

A69. The estimate for the mobile crane was [REDACTED], and the estimate for the Visitor's Center was [REDACTED]

Q70. What is the basis for the estimates of the mobile crane and the Visitor's Center? (Takacs)

A70. The estimate for the crane was based on quotes received from crane vendors. The estimate for the Visitor's Center is a typical value for construction of a simple commercial structure, based on my estimating judgment and experience.

Q71. Given your knowledge and professional experience, is this reasonable? (Gase)

A71. Yes. The cost of the mobile crane is based on vendor quotes and the [REDACTED] for the Visitor's Center is consistent with the expected costs for this type of structure. Thus, these estimates are reasonable.

M. Contingencies

Q72. What costs would constitute contingencies for the construction of the PFSF? (Gase)

A72. Contingency is a factor added to the estimate for possible additional costs beyond the control of the estimator (but within the scope of the work covered by the estimate) that might develop but cannot be quantified at the time of estimate preparation. This covers uncertainties and risks.

Q73. What are the estimated contingencies costs for the PFSF Phase I construction costs which you have estimated? (Takacs)

A73. Approximately [REDACTED]

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Q74. What is the basis for the estimate of contingencies for the portions of the PFSF cost estimate prepared by Stone & Webster? (Takacs)

A74. Consistent with the PFS Business Plan, a [REDACTED] contingency allowance was added to the construction cost for the entire PFSF project.

Q75. Given your knowledge and professional experience, is this reasonable? (Gase)

A75. Yes. The level of detail and the conservative approach used to develop this estimate supports the reasonableness of applying a [REDACTED] contingency.

III. CONSTRUCTION COSTS FOR PHASE II OF THE PFSF

Q76. What items are included in the cost estimate for Phase II of construction for the PFSF? (Takacs)

A76. In Phase II of construction, the PFSF will be expanded to accommodate an additional 10,000 MTU of spent fuel. Accordingly, the cost estimate for Phase II includes additional excavation and sitework, additional electrical work, additional security fencing, additional perimeter road, and the additional cask storage pads. Specifically, the cost estimate includes stabilization of [REDACTED] yd<sup>2</sup> of soil, [REDACTED] yd<sup>3</sup> of imported structural fill, [REDACTED] yd<sup>3</sup> of imported gravel fill, addition of electrical ductbank, removal of some Phase I ductbank, [REDACTED] additional electrical manholes, [REDACTED] additional light poles, installation of [REDACTED] ft of security fence and [REDACTED] ft of the security system, removal of [REDACTED] ft of the previously constructed security system, [REDACTED] sf of foundation mat forms, [REDACTED] tons of reinforcing rebar, [REDACTED] yd<sup>3</sup> of concrete, additional cask temperature monitoring systems, an additional [REDACTED] yd<sup>2</sup> of perimeter road, and removal of [REDACTED] yd<sup>2</sup> of previously constructed perimeter road.

Q77. What is the total cost estimate for Phase II of construction for the PFSF? (Takacs)

A77. Approximately [REDACTED] including the [REDACTED] contingency.

Q78. What is the basis for the total cost estimate for Phase II of construction for the PFSF? (Takacs)

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A78. As described generally in the response to Question 15, and described in more detail for the specific responses for Roads and Parking, Cask Storage Pads, Site Work, and Yard Electrical Work, the costs associated with the items for Phase II of construction were developed from quantity take-offs of the conceptual drawings, including structural drawings of the concrete storage pads, electrical one-line diagrams, and the design criteria for the Storage Facility and Balance of Facility. The quantities developed from the take-offs were further refined after discussions with the project engineers. Using these quantities, in conjunction with the cost estimating reference materials identified in the response to Question 15, we developed a cost estimate for Phase II of the construction.

Q79. Given your knowledge and professional experience, is this cost reasonable? (Gase)

A79. Yes. Because the estimate for the components of Phase II of construction rely on the same conservative and reasonable bases discussed above in the discussion of Phase I of construction, the cost estimate for Phase II is also reasonable and conservative.

#### IV. CONSTRUCTION COSTS FOR PHASE III OF THE PFSF

Q80. What items are included in the cost estimate for Phase III of construction for the PFSF?

A80. In Phase III of construction, the PFSF will be expanded to accommodate an additional 20,000 MTU of spent fuel to reach its ultimate capacity of 40,000 MTU. Accordingly, the cost estimate for Phase III includes additional excavation and site work, additional electrical work, additional security fencing, additional perimeter road, and the additional concrete storage pads. Specifically, the cost estimate includes stabilization of [REDACTED] yd<sup>2</sup> of soil, [REDACTED] yd<sup>3</sup> of imported structural fill, [REDACTED] yd<sup>3</sup> of imported gravel fill, addition of electrical ductbank, removal of some Phase II ductbank, two additional electrical manholes, eight additional light poles, installation of [REDACTED] ft of security fence and [REDACTED] ft of the security system, removal of [REDACTED] ft of the previously constructed security system, [REDACTED] sf of foundation mat forms, [REDACTED] tons of reinforcing rebar,

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█ yd<sup>3</sup> of concrete, additional cask temperature monitoring system, an additional █ yd<sup>2</sup> of perimeter road, and removal of █ yd<sup>2</sup> of previously constructed perimeter road.

Q81. What is the total cost estimate for Phase III of construction for the PFSF? (Takacs)

A81. Approximately █, including the █ contingency.

Q82. What is the basis for the total cost estimate for Phase III of construction for the PFSF? (Takacs)

A82. As described generally in the response to Question 15, and described in more detail for the specific responses for Roads and Parking, Cask Storage Pads, Site Work, and Yard Electrical Work, the costs associated with the items for Phase III of construction were developed from quantity take-offs of the conceptual drawings, including structural drawings of the concrete storage pads, electrical one-line diagrams, and the design criteria for the Storage Facility and Balance of Facility. The quantities developed from the take-offs were further refined after discussions with the project engineers. Using these quantities, in conjunction with the cost estimating reference materials identified in the response to Question 15, we developed a cost estimate for Phase III of the construction.

Q83. Given your knowledge and professional experience, is this cost reasonable? (Gase)

A83. Yes. Because the cost estimate for the components of Phase III of construction rely on the same conservative and reasonable bases discussed above in the discussion of Phase I of construction, the cost estimate for Phase III is also reasonable and conservative.

V. Conclusion

Q84. In conclusion, are the foregoing estimates for the construction costs of the PFSF conservative and reasonable? (Gase)

A84. Yes.

November 1999

JOSEPH F. GASE

MANAGER

PROJECT CONTROLS & RESOURCE STAFFING

EDUCATION

Indiana Institute of Technology - BS in Civil Engineering, 1971

LICENSES AND REGISTRATIONS

Engineer-in-Training - Indiana

EXPERIENCE SUMMARY

Mr. Gase is currently Manager of Project Controls and Resource Staffing for Stone & Webster's Denver Office. In this capacity, he is responsible for enhancing project performance by providing business and financial support, cost and schedule control and construction estimating services. He is also responsible for Denver Office resource planning and allocation. Mr. Gase has over 28 years of diversified experience in business and financial management, cost and scheduling, construction cost estimating, expenditure forecasting and field construction experience including craft supervision.

Currently, with a cadre of uniquely qualified and experienced professionals under his direction, Mr. Gase provides a wide variety of project support services including:

- Proposal strategies and commercial proposal preparation for both private sector clients and government agencies where knowledge and experience in government regulations, innovative pricing and various incentive arrangements have proved to be a critical success factor.
- Enhancing the financial performance of Denver Office projects by assisting project managers with improved project control techniques, effective contract change control, critical variance analyses and providing qualified business and contract support.
- Construction capital cost estimating services for both proposals and project specific tasks.
- Project cost control and planning and scheduling services.

JOSEPH F. GASE

DETAILED EXPERIENCE

STONE & WEBSTER APRIL 1971 to PRESENT

Stone & Webster - Denver, Colorado (February 1980 to present)

**Resource Manager — June 1999**

**Division Manager, Project Controls - May 1991**

**Project Controls Supervisor — October 1989**

**Principal Cost & Estimating Engineer — July 1988**

Assignments include:

- San Diego Gas & Electric Company
- R. L. Ferguson and Associates
- Department of Energy
- Wyoming Water Development Commission
- Garb Oil Corporation
- Western Fuels-Utah, Inc.
- Sunedco Coal Company
- Northern States Power Company
- Alaska Power Authority
- Northern States Power Company

Stone & Webster — Construction Department (April 1971 — January 1980)

City of Colorado Springs Department of Public Utilities,  
Unit No. 1 R.D. Nixon Station (November 1977 — January 1980)  
Colorado Springs, CO - 200 MW Fossil Plant  
**Senior Construction Engineer**

Power Authority of the State of New York, (February 1975 - October 1977)  
Consolidated Edison Central Station Unit No. 6  
Astoria, New York - 900 MW Fossil Plant  
**Senior Planning Engineer -**

Construction Department, Boston Office (May 1974 - Jan 1975)  
**Construction Planning Engineer**

Virginia Electric and Power Company (April 1971 — April 1974)  
Unit No. 3, Mt. Storm, West Virginia - 560 MW Fossil Plant.  
**Construction Planning Engineer**

George L. Takacs, IV

Principal Estimating Engineer

### **Executive Summary**

Mr. Takacs has over 25 years of estimating, cost control and scheduling experience in the construction industry. Presently, Mr. Takacs is employed as Principal Estimating Engineer in the Cost and Scheduling Department of Stone & Webster's Denver office. As Staff Estimator, he has prepared numerous cost estimates ranging from conceptual to LSTK bids for various power, government, industrial and process facilities. Some of these estimates have included the decommissioning of a nuclear power plant; various coal, nuclear, geothermal, and hydro power plants; FGD and Nox retrofits; oil shale projects; catalytic crackers; ethylene plants; and various transportation and mining projects.

Mr. Takacs worked on several lump sum fixed price proposal estimates such as Pueblo Combined Cycle Power Project, North Rochelle Mine, Pan Energy Substation, Milan Groundwater Treatment Plant, Akzo Salt Mine Facilities, East Mesa geothermal power plant (two - 18.5 MW units), Pacific Light and Electric System (PLES) geothermal power plant, and Chevron cogeneration project.

Prior to joining Stone & Webster, Mr. Takacs was employed as Field Cost/Schedule Engineer for Townsend and Bottum on an 800 MW coal-fired power plant. He was also with Townsend and Bottum as Cost Engineer on the home office staff providing pre-construction services for a 2400 MW, 2-unit nuclear power plant.

Before holding that position, Mr. Takacs was Architectural/Structural Estimator for the Western Division, Naval Facilities Engineering Command. In this position he was responsible for reviewing all types of estimates for construction projects in the Western Naval Districts, including Alaska.

Prior to joining the Naval Facilities Engineering Command, Mr. Takacs was employed as Associate Engineer for Commonwealth Associate's Cost Engineering Department.

### **Education**

Montana State University - Bachelor of Science, Construction Engineering Technology. 1974

### **Training**

Colorado State University and the University of Colorado - Graduate courses in Business and Economics

Several seminars on Process Estimating

Forty-hour seminar on Value Engineering

Various Stone & Webster-sponsored courses

## **Professional Affiliations**

American Association of Cost Engineers - Served on the 1978 Annual Convention Technical Committee and the Technical and General Arrangement Committees for the 1985 Annual Convention. Vice-Chairman Cost Estimating Committee 1986-1991.

## **Experience History**

**STONE & WEBSTER ENGINEERING CORPORATION, DENVER, COLORADO  
(APRIL 1980 TO PRESENT)**

General Staff Estimating Support  
Principal Estimating Engineer

Department of Energy, Rocky Flats Environmental Technology Site  
Project Estimator

Westinghouse Savannah River Company, Actinide Packaging & Storage Facility  
Project Estimator

Pacific Gas & Electric, Pittsburg and Contra Costa Units  
Project Estimator

Salt River Project, Navajo Scrubber Project  
Project Estimator

Army Corps of Engineers, Garrison Dam Major Rehabilitation  
Project Estimator

Kennecott Energy Company, Puron Processing Facility  
Project Estimator

Rosario Dominicana, S.A.  
Project Estimator

Hellenic Alumina Industry S. A., Elva Alumina Project  
Independent Reviewer

Summit Energy, Summit Pumped Storage Project  
Independent Reviewer

Kiewit Construction Company, Smithland/Chanelton Hydro Project  
Cost Estimator

Public Utility District No. 1 of Pend Orielle County, Box Canyon Hydro Unit 5  
Cost Estimator

Montana Power Company  
Cost Estimator

First Kentucky Coal Refining Company  
Cost Estimator

Tennessee Valley Authority  
Cost Estimator

Cordero Mining Company  
Cost Estimator

Northern States Power Company  
Cost Estimator

Usibelli Coal/Alaska Industrial Development and Export Authority  
Cost Estimator

City and County of Denver, Colorado  
Cost Estimator

Alaska Power Authority  
Cost Estimator

City of Independence, Missouri  
Cost Estimator

Mitsubishi International Corporation  
Cost Estimator

Mobil Chemicals, Houston  
Cost Estimator

BP Australia LTD  
Project Cost Engineer

Northern States Power Company  
Project Cost Engineer

Indiana Oil Shale Project  
Cost Estimator

Northern States Power Company  
Project Cost Engineer

Total Petroleum  
Cost Estimator

American Syn-Crude  
Cost Estimator

Pacific Power and Light  
Project Cost Engineer

Nielsen Resources Corp.  
Cost Estimator

Sunedco  
Cost Estimator

Thermal Power Company  
Cost Estimator

Alaska Power Authority  
Cost Estimator

Omaha Public Power District  
Cost Estimator

Portland General Electric  
Cost Estimator

Montana Power Company  
Cost Estimator

Public Service Company of Colorado  
Cost Estimator

TOWNSEND AND BOTTUM  
ANN ARBOR, MICHIGAN  
Field Cost/Schedule Engineer — J.H. Campbell Unit 3

Cost Engineer — Ann Arbor, Michigan

WESTERN DIVISION NAVAL FACILITIES ENGINEERING COMMAND,  
SAN BRUNO, CALIFORNIA  
(SEPTEMBER 1975 TO AUGUST 1978)  
Architectural/Structural Estimator

COMMONWEALTH ASSOCIATES, JACKSON, MICHIGAN  
(SEPTEMBER 1975 TO JULY 1978)  
Assistant Cost Engineer

1                   JUDGE BOLLWERK: The document identified by  
2 Mr. Silberg as PFS Exhibit D, the record should reflect  
3 that that's been marked for identification. Any  
4 objections to its admission?

5                   MR. CURRAN: None.

6                   JUDGE BOLLWERK: If there's no objections then  
7 that Exhibit is admitted into evidence.

8                                   [Applicant's Exhibit D was  
9                                   . received in the record.]

10                  MR. SILBERG: The witness's testimony has been  
11 admitted, Exhibit D has been admitted, the witnesses are  
12 available for cross-examination.

13                  JUDGE BOLLWERK: Ms. Curran.

14                                   CROSS-EXAMINATION

15                  BY MS. CURRAN:

16                  Q. Good morning, Mr. Gase and Takacs.

17                  A. (Witness Takacs) Good morning.

18                  A. (Witness Gase) Good morning.

19                  Q. Before we begin I would like to make a request  
20 of you which I generally make of panels of witnesses.  
21 It's not always clear to me who is the appropriate  
22 person to answer a question. You may decide among  
23 yourselves who will answer the question. What I don't  
24 want to have is whispered consultation before the answer  
25 is given. You can take turns, okay?

1           A.   (Witness Gase)  Sure.

2           Q.   All right.  Thank you.

3           A.   (Witness Gase)  We'll try to comply with that.

4           Q.   Well, believe me, you will hear from me if you  
5   don't.

6                    Please describe for me what is Stone &  
7   Webster's role in the entire PFS project.

8           A.   (Witness Takacs)  Well, my role, I can't  
9   really speak for Stone & Webster entirely, but my role  
10   was requested about -- I think it was last fall to  
11   prepare an estimate of the project cost, the  
12   construction project costs for this facility to be  
13   submitted for or submitted with the licensing documents  
14   or licensing request.

15          A.   (Witness Gase)  I would add I'm not familiar  
16   with the specific contractual arrangements of Stone &  
17   Webster with PFS.

18                    JUDGE BOLLWERK:  Are you picking this up all  
19   right?

20                    THE REPORTER:  (Indicating affirmatively.)

21          Q.   (BY MR. CURRAN)  So do you know whether Stone  
22   & Webster has been hired or will be hired to do detailed  
23   design drawings for the facility?

24          A.   (Witness Gase)  I believe we have been  
25   retained to do that.

1 Q. Are these the drawings that then would go out  
2 to vendors for bid, for construction bids?

3 A. (Witness Takacs) No. These were only  
4 preliminary or conceptual drawings. Much more detail  
5 will go into the further enhancement design to go on out  
6 and bid the project at a later date.

7 Q. And the much more detailed design drawings  
8 that would be completed at a later date, is Stone &  
9 Webster going to be preparing those drawings?

10 A. (Witness Takacs) I believe possibly, yes.

11 A. (Witness Gase) Could I ask you for  
12 clarification? Were you referring for the drawings we  
13 used for this particular estimate or the detailed design  
14 effort?

15 Q. Detailed design.

16 A. The detailed design effort, in my opinion, are  
17 what will be used to go for vendor bids in the actual  
18 construction process. I don't believe there will be a  
19 designed design effort and then further details, which  
20 I'm not sure who would be contacted to do that.

21 Q. And do you know when those detailed design  
22 drawings that will be used to get bids will be  
23 completed?

24 A. (Witness Gase) The next phase of the program,  
25 which is the detailed design phase, I have talked to Mr.

1 Donnell about this and it is scheduled to take about 12  
2 weeks.

3 MR. SILBERG: And Mr. Donnell is, just for the  
4 record?

5 WITNESS GASE: He's our project manager and  
6 his specific role in PFS, I think I heard him referred  
7 to as project engineer.

8 Q. (BY MS. CURRAN) It's scheduled to take about  
9 12 months. When will it begin?

10 A. (Witness Gase) I think we are at that moment  
11 about now. I think it has commenced, or very close to  
12 doing it.

13 Q. Mr. Takacs, I believe you just said that you  
14 were contacted last fall to begin preparing construction  
15 cost estimates for PFS; is that correct?

16 A. (Witness Takacs) Yes. The first detail or  
17 semi detailed estimate that's been prepared here. They  
18 were based on the information that was available at that  
19 time.

20 Q. Was S&W involved in any of the earlier cost  
21 estimates that were done by PFS?

22 A. I don't know. I don't have knowledge of all  
23 the previous estimates done by PFSF. I know we did a  
24 few studies, but I don't know how many were done so I  
25 don't know the answer to the total scope.

1 Q. Were you responsible for the April 26 cost  
2 estimate that was done by PFS?

3 A. (Witness Takacs) This past April 26?

4 Q. That's right.

5 A. (Witness Takacs) Yes. I believe that was the  
6 one that was done last fall, yes.

7 Q. But it was dated April 26. It was done last  
8 fall, but the date that appears on the piece of paper is  
9 April 26?

10 A. (Witness Takacs) Yes, yes.

11 Q. You said you're aware of other cost estimates  
12 that have been done. What others are you thinking of?

13 A. (Witness Takacs) Study estimates,  
14 transportation study for one.

15 Q. What date was that transportation cost  
16 estimate?

17 A. (Witness Takacs) I do not know.

18 Q. Was S&W responsible for any aspect of the 1997  
19 Business Plan?

20 A. (Witness Gase) I have no specific knowledge  
21 of that.

22 Q. And the 1998 Business Plan, did S&W have a  
23 role in that?

24 A. (Witness Gase) The same answer.

25 Q. In your testimony there's an Exhibit D which

1 is another construction cost estimate in a very similar  
2 format to the April 26 cost estimate. Do you agree?

3 A. (Witness Takacs) Yes.

4 Q. It is different in some respects?

5 A. (Witness Takacs) Yes.

6 Q. For the May 13 construction cost estimate that  
7 is attached as Exhibit D, did you look at construction  
8 costs afresh or did you use the same data that was  
9 provided in the April 26 cost estimate?

10 A. Well, the basis of both these estimates is the  
11 same, they were in 1999 dollars. So no, we didn't  
12 look -- repeat the question, please.

13 Q. In the May 13th construction cost estimate,  
14 which is attached as Exhibit D to your testimony.

15 A. (Witness Takacs) Yes.

16 Q. Did you rely on the same estimates that were  
17 provided in the April 26, 2000 cost estimate?

18 A. (Witness Takacs) Basically, the estimate that  
19 is in Exhibit D is the same as the previous estimate  
20 with a few minor changes.

21 A. (Witness Gase) Could I ask for clarification  
22 only? Are you saying did we develop anew this estimate  
23 versus the previous April?

24 Q. Yes.

25 A. (Witness Gase) Or did we just verify or

1 validate the previous estimate? Or enhance, I guess  
2 would be a better word.

3 Q. Well, I guess there are three options, right?

4 A. (Witness Gase) I guess I didn't do myself any  
5 favors, right?

6 Q. Which of those three?

7 A. I'll ask Mr. Takacs to answer that one.

8 A. (Witness Takacs) A true boss. We enhanced  
9 it, I guess, based on that.

10 Q. What did you do to enhance it?

11 A. (Witness Takacs) There was a few changes,  
12 minor changes in wage rates. There was a few items that  
13 we had added to the scope of the estimate. I believe  
14 that's it.

15 Q. And what prompted you to make those changes?

16 A. Reviews of -- in a couple of areas, areas that  
17 were missed before.

18 Q. I would like to ask you about the scope of  
19 your review as it was given to you by PFS.

20 MR. SILBERG: Could we have a clarification?  
21 Scope of review as to what, please?

22 Q. (BY MS. CURRAN) Yeah, just wait a minute and  
23 you'll get it. I just want to see if my understanding  
24 of the testimony is correct. The impression I get from  
25 your testimony is that you were not so much told to

1 identify all potential construction costs as you were  
2 given a set of drawings and told, "Using these drawings  
3 come up with a detailed cost estimate for us." Is that  
4 a correct understanding?

5 A. (Witness Takacs) Well, it's close, I think.  
6 The drawings and -- between the drawings and the design  
7 criteria, but I also had discussions with the  
8 engineering staff so -- to come up with the complete  
9 construction costs for the project.

10 Q. Is it fair to say that your construction cost  
11 estimate is limited to materials and labor for the  
12 physical plant?

13 A. (Witness Takacs) If you're distinguishing  
14 physical plant versus, say, like rolling rail cars or  
15 things like that?

16 Q. No. What I'm distinguishing is, for instance,  
17 the cost of capital to do the construction.

18 A. Well, the cost of capital, we estimated the  
19 construction cost for building the facility, including  
20 the site development, putting up the fence, building the  
21 structures, getting them ready for occupancy. There's  
22 numerous other costs that were estimated by other people  
23 that I would say is part of capital costs.

24 Q. But that wasn't part of the scope of your --

25 A. (Witness Takacs) That wasn't part of our

1 scope, no. We did something based in 1999 dollars.

2 Q. Are you experienced in the area of estimating  
3 capital costs for a construction project?

4 A. (Witness Takacs) In most areas, yes.

5 Q. In your experience, in a typical construction  
6 cost estimate would the cost of capital for construction  
7 be included in the estimate?

8 A. (Witness Takacs) No. That's -- cost of  
9 capital would be a cost that would be part of someone  
10 else's input to this. You're referring to financing  
11 costs or --

12 Q. I'm asking you about in your general  
13 experience with construction cost estimates, not your  
14 experience with this particular project where I  
15 understand the scope of your review was limited and  
16 others did other parts of it. But as a general matter,  
17 do you consider that the cost of capital for  
18 construction is -- constitutes a construction cost?

19 A. (Witness Takacs) I wouldn't constitute -- in  
20 my opinion, I wouldn't constitute that a construction  
21 cost, but I really don't have a basis for saying or  
22 answering that.

23 Q. Mr. Gase?

24 A. (Witness Gase) I think that as we do work at  
25 Stone & Webster, our scope of supply usually ends with

1 the drawings and specifications and what I would call  
2 sometime we move into the escalation based on the  
3 schedule of a particular project. But that's usually  
4 where we stop. The client, their people or our client,  
5 if you will, would typically take it and how they were  
6 going to finance it is their business, is the business  
7 end of how they're going to do what we are proposing or  
8 what we have proposed they build. That's my experience,  
9 anyway. So that the below the line items I would say  
10 I'm certainly not as familiar with as I am with the  
11 scope of supply in this particular effort.

12 Q. Okay. Do you have a copy of your Exhibit D  
13 with you?

14 A. (Witness Gase) Yes

15 A. (Witness Takacs) Yes.

16 Q. I just want to ask some informational  
17 questions about some of the columns on your chart here.  
18 On the left-hand side of each page of the chart, is it  
19 correct that there's four columns entitled Phase,  
20 Geographic, Area and CSI?

21 A. (Witness Takacs) Yes.

22 Q. For the columns entitled "Geographic, Area and  
23 CSI," could you explain what those mean?

24 A. (Witness Takacs) It's just a means of me  
25 categorizing the estimate so it will sort out and

1 summarize in the fashion I want to see the information  
2 provided.

3 Q. For instance, what does geographic mean?

4 A. (Witness Takacs) In this particular,  
5 geographic is what I'm using to isolate so I can get a  
6 total cost of the individual buildings.

7 Q. So that G010 is building?

8 A. (Witness Takacs) Yes.

9 Q. And then what is -- oh, that's geographic. G1  
10 is an area of the site. G010 is a building out in that  
11 area; is that right?

12 A. (Witness Takacs) Well, I guess I answered to  
13 the area. The area is what's separating the buildings.  
14 The geographic in the phase is basically they're kind of  
15 seem to be redundant here, they're both doing the same  
16 purpose.

17 Q. Okay. And what is CSI?

18 A. (Witness Takacs) That's just the way the data  
19 is stored in our database in the computer. CSI refers  
20 to Construction Specification Institute and it's common  
21 in the building industry.

22 Q. So this number tells me where in your -- in  
23 the database for this particular chart I would look for  
24 this number or --

25 A. (Witness Takacs) Yes.

1 Q. Okay. Going back to page 4 of your testimony,  
2 I would like to ask you about some of the things that  
3 you say there. You say here that "The PFSF cost  
4 estimate is a conceptual estimate, based on the  
5 preliminary drawings, for the labor and materials costs  
6 for constructing those portions of the PFSF identified  
7 in PFS Exhibit D"?

8 A. (Witness Takacs) Yes.

9 Q. Can you-- and then you go on to say that this  
10 estimate is based on preliminary drawings. I wonder if  
11 you could explain for me what is the evolution of  
12 drawings that will take place in this particular  
13 project.

14 A. (Witness Takacs) Well, these drawings  
15 submitted, basically show floor plan and elevation,  
16 which is just conceptual, for the most part. There were  
17 some that went into a lot more detail in a couple of the  
18 areas. It actually showed concrete design, including  
19 reinforcement. But at some stage in time when the  
20 project is put out for bid and after design is done,  
21 drawings will detail every item -- every item of  
22 construction.

23 Q. So the conceptual drawings are not very  
24 detailed; is that fair to say?

25 A. (Witness Takacs) Well, they're detailed for

1 what's there, but there's just a lot more drawings to be  
2 produced.

3 Q. What kind of information will appear in the  
4 final design drawings that isn't in the conceptual  
5 drawing?

6 A. (Witness Takacs) Well, in this particular  
7 case the -- there is considerable detail done on the  
8 structural layout of the cask storage building. You  
9 will have then such detail for all the buildings, not  
10 just the cask transfer.

11 MR. SILBERG: Excuse me. Just to clarify the  
12 record, when you said "in this case," referring to the  
13 canister transfer building, you mean those drawings  
14 already show that level of detail?

15 WITNESS TAKACS: They already show more  
16 detail, yes, than, say, in the administration building.

17 MR. SILBERG: Thank you.

18 Q. (BY MS. CURRAN) So this sentence here that  
19 says "Structural drawings were included for the cask  
20 storage pads and the canister storage building, the  
21 structural drawings are the drawings that are more  
22 detailed?

23 A. (Witness Takacs) Yes, they are.

24 Q. These structural drawings, are these the  
25 drawings that will be used to take bids for the project?

1 A. (Witness Takacs) I can't say that.

2 A. (Witness Gase) I would offer a crack that  
3 they will not.

4 Q. They will not?

5 A. (Witness Gase) That they will be further  
6 detailed. If I can only offer that I believe in our  
7 business we go from conceptual drawings, in general, to  
8 sequence your question, I believe, we go from conceptual  
9 drawings to a preliminary drawing to detail drawings,  
10 and then there is also a construction set of drawings,  
11 so as we evolve through the design process. The  
12 detailed drawings, though, should be sufficient to  
13 support getting an accurate bid for the client. The  
14 conceptual drawings, or as referred to here as  
15 preliminary drawings that we used for this effort you  
16 could not put out for bid with a reasonable expectation.

17 Q. Okay. I heard you say it goes from conceptual  
18 to preliminary to detailed to construction?

19 A. Yes, right.

20 Q. So there's a stage of conceptual that comes  
21 before preliminary?

22 A. (Witness Gase) Yes. These are very -- these  
23 are almost back of the envelope-type things, but there's  
24 a word I'm looking for that's escaping me right now, but  
25 they're very vague in terms of -- they will relay a

1 message or are smart enough to make some decisions, but  
2 they're just a concept in someone he's mind.

3 Q. That's the conceptual level?

4 A. (Witness Gase) Yes.

5 Q. And it is the conceptual level of drawings  
6 that has been used for most of these cost estimates?

7 A. (Witness Gase) For the majority of it, yes.

8 However, the preliminary word utilized here would  
9 indicate or give credence and credit to the fact that  
10 they have gone a little further in the cask storage  
11 building in displaying some of the structural details  
12 that we would not normally, or at least in my experience  
13 not normally expect to have at this point in time.

14 Q. By cask storage building do you mean canister  
15 transfer building?

16 A. Canister transfer, yes, I'm sorry.

17 Q. Okay. Where in this sequence of drawings does  
18 structural drawing fall?

19 A. (Witness Gase) Structural drawing, in my  
20 opinion, they are getting closer to preliminary  
21 drawings, but the next phase of the estimate will be  
22 based on a detailed drawing which will be more elaborate  
23 than the ones we currently have.

24 Q. So the final sequence of drawings is  
25 conceptual to structural to preliminary to detailed to

1 construction?

2 A. (Witness Gase) That's probably fair.

3 Q. All right. In your testimony you also -- you  
4 say that one step that you took here was to consult  
5 various sources for prices; is that correct?

6 A. (Witness Takacs) Yes.

7 Q. And one of those sources is the S&W database;  
8 is that right?

9 A. (Witness Takacs) Yes.

10 Q. Can you give me a sense of which of these  
11 sources that are mentioned in your testimony that you  
12 relied most heavily on for your cost estimates?

13 A. (Witness Takacs) I would say probably our  
14 internal database.

15 Q. Can you give me a sense of how many of the  
16 estimates in here come from your internal database, what  
17 proportion?

18 A. (Witness Takacs) A third to half maybe, or a  
19 third to 60 -- or two-thirds, somewhere in there.

20 Q. A third to two-thirds?

21 A. (Witness Takacs) Half.

22 Q. Half?

23 A. (Witness Takacs) I don't know. I don't track  
24 line item by line item where it's coming from. Most of  
25 the concrete items came from the database. A lot of the

1 interior finish work came from other sources like means.  
2 There's specific information, like the railroad came  
3 from prior studies or prior estimates.

4 Q. What are those prior studies and estimates  
5 that you refer to in your testimony?

6 A. (Witness Takacs) Well, prior estimates, for  
7 example, on the railroad, we had just at the time this  
8 estimate was done we had -- we were working on a project  
9 in Texas that involved I believe a 20 to 30 mile  
10 railroad for hauling coal. So a very similar type  
11 nature, a lot of similar items. So I took information  
12 from that project and from the estimator that was  
13 working on that.

14 Q. Did you take any information from the 1998  
15 Business Plan or the 1997 Business Plan?

16 A. (Witness Takacs) I am not familiar with what  
17 is specifically in those Business Plans so I really  
18 can't say.

19 Q. In some cases you got vendor estimates,  
20 correct?

21 A. (Witness Takacs) Yes.

22 Q. How do you determine when it's appropriate to  
23 get a vendor estimate?

24 A. (Witness Takacs) Well, one good example, I  
25 guess, is the crane. This is a highly specialized crane

1 so you solicit information for that item. Now, if areas  
2 aren't in your database and you don't find them in other  
3 sources or they're something that you don't work with  
4 normally, you solicit information from suppliers.

5 Q. How reliable is that relative to an actual  
6 bid?

7 A. (Witness Takacs) Usually pretty reliable. On  
8 the majority of cases they typically, actual bids will  
9 wind up being lower in cost than vendor supply data.

10 Q. The S&W database, is that information  
11 classified partially by geography, by physical location?

12 A. (Witness Takacs) No. Our database is  
13 organized along the lines of the CSI code or the CSI  
14 numbers you were asking about earlier. It's typically,  
15 you know, kind of like an industry standard for one  
16 means of categorizing information.

17 Q. For instance, if you were going to try to come  
18 up with a price for building concrete pads.

19 A. (Witness Takacs) Yes.

20 Q. And you break this down into materials and  
21 labor and other pieces of equipment that are needed to  
22 do this.

23 A. (Witness Takacs) Yes.

24 Q. Does your database have a category for the  
25 Rocky Mountain states to look at what the costs would be

1 in that region? .

2 A. (Witness Takacs) No. The database itself  
3 addresses our company experience I guess in these areas,  
4 and prior to dealing with the estimates you check out  
5 ahead of time what the labor costs are for the region  
6 you're in and any productivity factors that you want to  
7 adjust the database with.

8 Q. So, for instance, would you find it surprising  
9 that in the State of Utah on some construction projects  
10 there have been problems or additional costs incurred in  
11 setting concrete during the winter because of the  
12 extreme cold here? Would that surprise you?

13 A. (Witness Takacs) No.

14 Q. So is that something that you took into  
15 account in providing your cost estimate for the storage  
16 pads for PFS?

17 A. (Witness Takacs) Yeah, I believe it's  
18 covered.

19 Q. How?

20 A. (Witness Takacs) Well, we do work -- you  
21 know, we're in Denver, which is similar weather to what  
22 you have here, and a lot of our projects that we're  
23 executing right now, one of our major projects within  
24 the company is in the state of Maine. So --

25 Q. But you got the information out of your

1 database, right?

2 A. (Witness Takacs) Yes. The database is a  
3 starting point.

4 Q. And can you tell whether the database includes  
5 considerations like that?

6 A. (Witness Takacs) Well, for one, you put  
7 admixes into concrete which won't affect the price of  
8 the concrete too much, but then there's a lot of other  
9 things that will happen too when you're at a later stage  
10 of bidding a job when you're doing something that is  
11 drastically more detailed.

12 Q. This is something that may not come up at this  
13 stage of the project?

14 A. (Witness Takacs) At this stage right now, no.

15 Q. What is the age of the data in the S&W  
16 database?

17 MR. SILBERG: I'm sorry, could I have the  
18 question repeated back?

19 Q. (BY MS. CURRAN) What is the age of the data  
20 in the S&W database?

21 A. (Witness Takacs) Well, it's hard to answer  
22 that because it's constantly -- you know, on projects  
23 we're executing information is coming in all the time.  
24 So that information -- you know, at the time this  
25 estimate was prepared there was one database and it's

1 been enhanced quite a bit since then. For the most  
2 part, an example, rebar prices have come down quite a  
3 bit from numbers used here. So we're constantly -- so  
4 there's a person basically here full-time that's  
5 overseeing the database and constantly updating it. To  
6 come in and say that this is a month and year, I  
7 couldn't give you an answer like that. At the time  
8 you're doing an estimate it's current data.

9 Q. And you can't tell from looking at the  
10 database what's the age of the database you're looking  
11 at; is that correct?

12 A. (Witness Takacs) No. 1999.

13 Q. Well, it's 1999 why? Why do you say '99?

14 A. (Witness Takacs) Well, for one, we had a  
15 major rehaul and as of approximately this time last year  
16 this was a new database. So it's --

17 Q. So every single item in the database was  
18 renewed or reviewed in 1999?

19 A. (Witness Takacs) At least reviewed, yes.  
20 And since then, there's been major enhancements to it  
21 since then so --

22 Q. I assume the data is from different projects  
23 that are done by S&W or that S&W knows of?

24 MR. SILBERG: Excuse me, clarification. When  
25 you say "the data," you're referring to the data in the

1 S&W database?

2 Q. (BY MS. CURRAN) Yes.

3 A. (Witness Takacs) Well, let's say it's  
4 tempered by various projects, yes.

5 Q. What do you mean, tempered?

6 A. (Witness Takacs) Well, as information comes  
7 in it's checked against the database and if warranted  
8 that something be changed, then it's changed. You know,  
9 the same database that we're doing here we rely on for  
10 bidding lump sum projects. So we have to be confident  
11 of what we have or, you know, be in real serious trouble  
12 real quick.

13 Q. Is this the same database that is used by S&W  
14 worldwide for all of its projects in various geographic  
15 areas and climates?

16 A. This is used by Stone & Webster, Boston Core  
17 Group for estimating in the power sector, which I'm part  
18 of, their lump sum projects, yes. And I guess some of  
19 those have been worldwide, yes.

20 Q. So this database would be used by Stone &  
21 Webster for coal-fired projects in New England too?

22 A. (Witness Takacs) Yes. If we were to be doing  
23 one there, but it's not really tempered for that type of  
24 market.

25 Q. In your experience, has Stone & Webster ever

1 been in situations where it seriously underestimated  
2 construction costs?

3 MR. SILBERG: Objection. Are we talking about  
4 stone and Webster throughout the entire world for any  
5 kind of project in any point in time for the last 100  
6 years?

7 Q. (BY MS. CURRAN) In the United States in the  
8 last ten years.

9 A. (Witness Takacs) Seriously underestimated?

10 Q. Yes.

11 A. (Witness Takacs) Seriously underestimated, I  
12 would say no.

13 Q. Are you familiar with Stone & Webster's  
14 financial problems --

15 A. (Witness Takacs) Very much so. My retirement  
16 just went down the tube so --

17 Q. My understanding is that Stone & Webster's  
18 financial problems stemmed, in part, from cost overruns  
19 on a coal-fired plant in Rhode Island; is that correct?

20 A. (Witness Takacs) That's some of them, yes.  
21 And I would say some of those, I would say, are not that  
22 the estimate itself was grossly low, but the project  
23 execution was not very well handled.

24 Q. Well, that's an interesting perspective. It's  
25 sometimes hard to say which end the mistake is made at,

1 isn't it?

2 A. (Witness Takacs) Yeah.

3 Q. The problem that we have here is trying to  
4 bring the cost estimates and the ultimate costs as close  
5 as possible.

6 A. (Witness Takacs) Right. We have -- you  
7 picked the project in New England. We have projects in  
8 the Denver office that are doing quite well.

9 Q. But the one in New England apparently was  
10 serious, was one of the causes for S&W to declare  
11 bankruptcy in June; isn't that correct?

12 A. (Witness Takacs) It didn't help.

13 A. (Witness Gase) I would offer that I do not  
14 believe this database we're referring to was the  
15 database utilized in estimating the job that you're  
16 alluding to back east. I think as a result of what  
17 happened back east and the renewed interest that George  
18 referred to earlier was focused on we need to put this  
19 database together. So that may not necessarily impugn,  
20 if you will, the database we're referring to.

21 Q. I don't understand. What do you mean by we  
22 need to put this database together?

23 A. (Witness Takacs) Well, those estimates were  
24 done several years ago and since then, in light of those  
25 particular project or projects you're bringing to light

1 the database was revised to reflect some of the  
2 information obtained from there.

3 Q. So would you say that several years ago you  
4 would not have had the same level of confidence in your  
5 database as you have now?

6 A. (Witness Takacs) Let's just say, as time goes  
7 by, I get more confidence in the information, yes.

8 Q. As you say in your testimony, what you have  
9 provided is an estimate of what the ultimate  
10 construction costs will be for this project; is that  
11 correct?

12 A. (Witness Takacs) Yes. For what's stated  
13 here, yes.

14 Q. Assuming that construction will begin in the  
15 fall of 2001, which is what PFS is asserting, what is  
16 your margin of error for this cost estimate?

17 MR. SILBERG: Can you define what you mean by  
18 "margin of error," please?

19 Q. (BY MS. CURRAN) What would be the maximum  
20 divergence percentagewise between your estimate and the  
21 actual cost of construction if it is begun in the  
22 fall of 2001?

23 MR. SILBERG: Excuse me. I will object to  
24 that because that assumes facts not in evidence, in  
25 other words, that what is constructed is identical to

1 what these individuals have estimated.

2 Q. (BY MS. CURRAN) Well, let's assume that what  
3 you are estimating is the design, ultimately what is  
4 built at PFS?

5 A. (Witness Takacs) On a present day basis of  
6 this estimate's date you're looking for a range of  
7 accuracy. No risk models were done of it, but I would  
8 speculate it would be in the minus 15 to plus 25  
9 percent, something like that.

10 Q. In your experience, what happens to the margin  
11 of error as the time between the date of the estimate  
12 and the date of actual construction expands?

13 A. (Witness Takacs) Could you restate that,  
14 please?

15 MS. CURRAN: Would you read the question back,  
16 please?

17 (Pending question read.)

18 WITNESS TAKACS: Your margin -- you're  
19 referring to like the accuracy level I just gave you?

20 Q. (BY MS. CURRAN) Yes.

21 A. (Witness Takacs) As you approach construction  
22 that goes down substantially.

23 Q. Well, what I'm asking you, let me give you a  
24 hypothetical. What if the construction date went out to  
25 the year 2003. How, if at all, would that affect your

1 calculation of the margin of error?

2 MR. SILBERG: Objection, there's no discussion  
3 of a calculation of margin of error.

4 Q. (BY MS. CURRAN) Your estimation, then, that  
5 the range of accuracy.

6 A. (Witness Takacs) Well, you're dealing with  
7 the escalation numbers and that's not part of our scope  
8 of work. Everything here was done on a present day  
9 basis. So unless something is done to change that, I  
10 would have no basis for changing anything.

11 Q. Well, okay. Then let me understand, your  
12 estimate of this range of accuracy, is it safe to say  
13 that that's your opinion regardless of when construction  
14 takes place?

15 A. (Witness Takacs) That's my opinion of what's  
16 right here. Unless this is redone at a later date or  
17 something, it wouldn't really change.

18 Q. But you have been telling me that the S&W  
19 database is constantly being reviewed and updated for --

20 A. (Witness Takacs) Yes.

21 Q. -- new information. What I'm trying to  
22 understand from you is, as time passes, if you don't  
23 keep reviewing these numbers, then doesn't the  
24 information you rely on get less and less reliable with  
25 the passage of time?

1 MR. SILBERG: Excuse me, could we have a  
2 clarification? Which numbers are they reviewing or not  
3 reviewing?

4 Q. (BY MS. CURRAN) The numbers in your cost  
5 estimate.

6 A. (Witness Gase) This particular estimate, our  
7 scope of supply?

8 Q. Right.

9 A. (Witness Gase) Yes, I would agree with you.

10 Q. On page 4 of your testimony, one of the things  
11 that you say you considered was this design criteria for  
12 the various facilities at the PFS site; is that correct?

13 A. (Witness Takacs) Yes.

14 Q. What seismic design criteria were you given  
15 for this facility?

16 A. (Witness Takacs) Well, I know there are  
17 design for us at the canister transfer as far as like  
18 what zone it was. I don't recall. It was built into  
19 the structural design of the cask storage, which is  
20 basically related to the thickness of the walls and how  
21 much reinforcing.

22 Q. Are you experienced in doing other cost  
23 estimates where seismic design was a factor?

24 A. (Witness Takacs) Yes.

25 Q. You've listed for me two elements of the

1 construction cost estimate that could be affected by the  
2 seismic design and that is the thickness of the walls  
3 and the reinforcing; is that correct?

4 A. (Witness Takacs) Yes.

5 Q. Are there any other elements of the cost  
6 estimate that would be influenced by the seismic design?

7 A. (Witness Takacs) Potentially, but that would  
8 be in engineering.

9 Q. Can you tell me what they are?

10 A. Well, sometimes supports for electrical or  
11 whatever, it all depends, piping analysis.

12 Q. In other words, there are various structural  
13 elements of an industrial facility that would need to be  
14 designed to withstand extreme shaking of the ground; is  
15 that correct?

16 A. (Witness Takacs) Yes.

17 Q. In your experience, does the need to address  
18 seismic criteria -- scratch that.

19 In your experience, can the need to address  
20 seismic criteria have a significant effect on the price  
21 of a construction estimate?

22 A. (Witness Takacs) Generally, buildings that  
23 are designed in a seismic area cost a little bit more  
24 than those in other areas.

25 Q. A little bit. Not much?

1           A.   (Witness Takacs) I know there's other factors  
2 that influence the structures. So sometimes wind  
3 governs over seismic, but that's something that an  
4 engineer would make the decision on.

5           Q.   I just want to understand, clarify if I  
6 understand your testimony. Are you saying that you have  
7 assumed that the seismic design requirements or design  
8 criteria for this facility are already incorporated into  
9 the drawings that you were given?

10          A.   (Witness Takacs) Basically a good part of  
11 them are in the structural cost and for the casks, the  
12 canister transfer building and the pads themselves, but  
13 I believe specific seismic analysis were done by the  
14 engineers. But I think the actual answer to that you  
15 would have to go to the project manager.

16          Q.   So are you saying that for those two  
17 structures for which you had the structural drawings,  
18 the canister transfer building and the storage pad, you  
19 had some seismic information in the drawings?

20          A.   (Witness Takacs) I believe it's reflected in  
21 the amount of concrete and reinforcement that's  
22 reflected in the estimate, yes.

23          Q.   As far as the conceptual drawings go for the  
24 other parts of the facility, was there any information  
25 in those drawings that would have indicated the seismic

1 design criteria?

2 A. (Witness Takacs) No, I don't think it's  
3 required there.

4 Q. Going back to, say, the storage pad cost  
5 estimate, how did you determine how much concrete was  
6 needed?

7 A. (Witness Takacs) It's on the drawings.

8 Q. And the same for the canister transfer  
9 building?

10 A. (Witness Takacs) Yes.

11 Q. What about the structures and the systems and  
12 components that are inside the canister transfer  
13 building, were there seismic design criteria included in  
14 those, in the drawings for those?

15 A. (Witness Takacs) No.

16 Q. Is it fair to say that the stricter the  
17 seismic design criteria are the more expensive the  
18 project is likely to be?

19 A. (Witness Takacs) Yes.

20 Q. I believe earlier, Mr. Gase, you said that you  
21 thought that Stone & Webster would be preparing the  
22 detailed design drawings for the PFS project?

23 A. (Witness Gase) That's correct.

24 Q. Have you yourself previously done detailed  
25 design drawings for other projects of this size and

1 nature?

2 A. (Witness Gase) Have I done drawings? Could  
3 you elaborate that?

4 Q. Have you previously prepared detailed design  
5 drawings for other major industrial facilities like  
6 that?

7 A. (Witness Gase) I'm not that kind of engineer.  
8 I have reviewed them and built them in the field, but I  
9 don't draw them.

10 Q. But you've previously reviewed them and built  
11 them?

12 A. (Witness Gase) Yes.

13 Q. And, Mr. Takacs, have you previously prepared  
14 design drawings for other projects?

15 A. (Witness Takacs) I have used them, I do not  
16 prepare them, no.

17 Q. Have you previously made cost estimates for  
18 such detailed design drawings?

19 A. (Witness Takacs) Yes.

20 Q. And, Mr. Gase, have you also?

21 A. (Witness Gase) Yes.

22 Q. Is there a rule of thumb as to what percentage  
23 of the overall costs of a project you would expect the  
24 detailed design drawings to cost?

25 MR. SILBERG: Excuse me. Is the question as

1 to the relevance of that? We're talking about  
2 construction cost estimates and I believe this question  
3 goes to a preconstruction cost or am I missing the point  
4 of the question?

5 MR. CURRAN: I believe it's a construction  
6 cost.

7 MR. SILBERG: Even though it's done before  
8 construction?

9 WITNESS TAKACS: You're asking for the cost of  
10 engineering or preparing drawings?

11 MS. CURRAN: Yes.

12 JUDGE BOLLWERK: So the objection to the  
13 question is wasn't these included in?

14 MR. SILBERG: It doesn't relate to the cost of  
15 construction and it's not part of this panel's testimony  
16 and not part of the issues before this court.

17 MS. CURRAN: Well, I think we may have a  
18 disagreement as to how the term "construction cost" is  
19 defined here, and our view of the definite of  
20 construction cost is broader than the applicant's view.  
21 What the state is concerned about here is whether PFS  
22 has adequately defined the scope of construction costs  
23 that need to be recovered in order to build this  
24 facility safely and I think we're probably going to  
25 argue about whether some of the costs that don't involve

1 actually brick and mortar are construction costs.

2 MR. SILBERG: If these are costs that are  
3 incurred before licensing, before construction, before  
4 going out for bids, it can't possibly have to do with  
5 construction.

6 MS CURRAN: Well, then we would -- all right.

7 JUDGE BOLLWERK: Can I make a suggestion  
8 perhaps?

9 MS. CURRAN: Yeah.

10 JUDGE BOLLWERK: You might ask the witness  
11 about design drawings and, for instance, whether they're  
12 part of this sheet of paper? Are they incorporated in  
13 here? I mean, these are the construction costs.

14 MR. SILBERG: That's their testimony. They're  
15 talking about construction of hard facilities. So it's  
16 not --

17 MS. CURRAN: I think that's been answered.

18 JUDGE BOLLWERK: All right.

19 MS. CURRAN: I think that's been answered and  
20 now I would like a sense from these people who have  
21 expertise in this area as to what they would expect is  
22 the cost. And I might add that what we're looking at  
23 here under the purview of Contention E is all the costs,  
24 construction, O&M. The concept of financial assurance  
25 is that if an applicant expands or borrows money and

1 expects to get it back through the price of construction  
2 or the fees for operation and maintenance, we don't want  
3 them trying to get that money without having put it into  
4 the estimate of what has to be gotten. That's where  
5 corner cutting happens, when something is not in the  
6 budget and yet the applicant tries to recover it through  
7 the cost of construction or operation. And there's  
8 certainly no question that you cannot build something  
9 like this without doing detailed design drawings.

10 MR. SILBERG: And these are all  
11 preconstruction costs that are not included in the  
12 financial commitments that we're talking about. Just  
13 like the cost of this hearing and the cost of the fees  
14 we're paying to the NRC to get our license, and the cost  
15 to get the lease and lots of other stuff that we do  
16 before construction starts. If we go down that road, I  
17 mean, we have a lot of other things we could talk about,  
18 but they're not relevant.

19 MS. CURRAN: Having the design drawings so  
20 that the architects and engineers who are building this  
21 know how to build it, know what to do, seems to us to be  
22 a very integral part of building this plant. Now, we're  
23 probably going to have arguments about many of these  
24 different costs which we think belong in this cost  
25 estimate and PFS doesn't, including things like legal

1 fees. But certainly if you look at all these different  
2 costs and you take the cost of the actual drawings that  
3 are going to show the builders of the facility what to  
4 do, we think this is probably a significant part of the  
5 cost of doing this and that it -- we ought to be able to  
6 discuss what that cost is and why it isn't in this cost  
7 estimate.

8 MR. SILBERG: And what these people are going  
9 to build eventually also is governed by what's in our  
10 licensing application. So on that theory we ought to  
11 put in the cost of preparing the safety analysis and the  
12 cost of doing all of our citing investigations and the  
13 cost of negotiating the lease. All of that is, you  
14 know, is somehow related to this project, but it ain't  
15 related to the licensing condition that we're talking  
16 about.

17 MS. CURRAN: And I just want to add one more  
18 point, which is, that to our knowledge there is no  
19 stipulation in PFS's license application that it does  
20 not plan to recover any of those costs when it goes  
21 about setting the price of construction here or  
22 operation. So for them to say something isn't a duck  
23 when it's talking and walking like a duck is, to us, a  
24 problem with this license application. The concept is  
25 if there is a cost that's been incurred and there's no

1 commitment in the license application not to attempt to  
2 recover that cost, we need to see what it is.

3 JUDGE BOLLWERK: Does the staff want to say  
4 anything about this since we're dealing with a fairly  
5 broad issue here?

6 MR. TURK: Your Honor, I would address it as  
7 with respect to whether it's within the scope of the  
8 direct testimony. If Ms. Curran has established that it  
9 is not included in the estimate, then it's not included  
10 in the testimony and it's beyond the scope of testimony  
11 and not proper for scope. Perhaps there's another  
12 witness that can answer the question she's asking.

13 MS. CURRAN: May I respond? The testimony  
14 says these are the construction cost estimates. We  
15 actually have testimony from three witnesses on  
16 construction cost estimates, Mr. Gase, Mr. Takacs and  
17 Mr. Parkyn. Now, we're probably going to ask Mr. Parkyn  
18 the same thing because they've divided up the cost  
19 estimate into several parts. And so if we have these  
20 three witnesses saying these are the construction cost  
21 estimates, it seems to us well within the scope of their  
22 testimony to ask, do you think it would be reasonable to  
23 include some other piece of -- some other cost element  
24 that you appear to have ignored, and what were those  
25 costs.

1           Now, the board may ultimately decide that --  
2 as a legal matter that this is not a relevant cost.  
3 That may be after we have briefed this issue, but in  
4 terms of making an evidentiary record about what is the  
5 cost or the likely cost so that the issue can be fully  
6 considered, it seems to us that it's appropriate to get  
7 the information on the record.

8           MR. SILBERG: If we're going to allow the  
9 record to include all information which one of the  
10 parties thinks might at the end of the day become  
11 relevant when the time to decide what the scope of the  
12 issue is up front, then this hearing will never end.

13           JUDGE LAM: Not only that, I have a thought  
14 about not only relevancy, but materiality. Is this  
15 material, Ms. Chancellor, the way I read the Contention  
16 and the regulation there is no requirement or mandated  
17 precision in cost estimates. The way I read the  
18 Contention and the record, it seems to me we're talking  
19 about reasonable assurance for the applicant to obtain  
20 the necessary funds to cover the estimated construction  
21 cost.

22           Now, the dispute here is on construction cost  
23 estimate. But for me, in order for it to be material it  
24 has to be in the area of such magnitude it would  
25 ultimately impact on reasonable assurance. Now, so far

1 I have not heard from your cross-examination driving  
2 down a damp path.

3 MS. CURRAN: Well, I was going down that path  
4 until I was stopped. I think the question that I was  
5 trying to ask here is what, in the witness's opinion as  
6 a general matter, is the proportion of the cost of  
7 detailed drawings to the entire costs of the project.  
8 It's the state's understanding that this can be a rather  
9 significant part of the construction costs. We  
10 certainly agree with you that absolute precision is not  
11 required. The question is, how significant is this in  
12 comparison to the total costs of the project. And  
13 that's the information I'm trying to elicit here.

14 JUDGE LAM: Right. So you're not driving for  
15 absolute precision?

16 MS. CURRAN: No, sir.

17 MR. SILBERG: Judge Lam, I don't think the  
18 issue is one of precision. I think the issue is whether  
19 this relates to the Contention.

20 MR. TURK: Your Honor, may we go off the  
21 record for a minute? We're having some side bar  
22 discussions.

23 JUDGE BOLLWERK: Yes, let's go off the record.  
24 In fact, at this time let's take a five-minute break and  
25 reconvene at 25 after.

1 (A recess was taken.)

2 JUDGE BOLLWERK: Back on the record. I guess  
3 I would like to direct one of the questions to the  
4 staff, and I'll allow any other parties to respond to  
5 their answer. The question here goes to definition of  
6 72. -- I put the regulation away.

7 JUDGE LAM: 22.

8 JUDGE BOLLWERK: The definition of  
9 construction laws. 72.22(e)(1), estimated construction  
10 costs. We've heard what Ms. Curran proposes to get  
11 into, we've heard some of the things that Mr. Silberg is  
12 concerned about getting into. Does the staff have  
13 concerns about whether those costs fall within that  
14 regulatory definition?

15 MR. TURK: Could we have just a minute, Your  
16 Honor?

17 JUDGE BOLLWERK: Sure.

18 MR. TURK: I'm sorry, Your Honor, can we take  
19 a moment or two off the record again?

20 JUDGE BOLLWERK: Why don't we go off the  
21 record.

22 (A discussion was had off the record.)

23 JUDGE BOLLWERK: Why don't we go back on the  
24 record. Why don't you provide the response to Ms.  
25 Curran and give her a second to look at the standard.

1 MS. CURRAN: I'll wait and hear what he has to  
2 say.

3 MR. BOLLWERK: All right.

4 MR. TURK: Your Honor, I'm looking in 10  
5 C.F.R., Part 72, and I see no definition there for the  
6 term "construction." However, if I look at new reg  
7 1567, the Standard Review Plan, which I have in front of  
8 me, the final report which was published in March 2000,  
9 there is a glossary that does define the term  
10 "construction," and it states as follows: "Includes  
11 materials, design, fabrication, installation,  
12 examination, testing, inspecting and certification as  
13 required by the manufacturer and installation of  
14 components."

15 Now, it's not clear that that definition of  
16 construction was intended to apply to the term  
17 "construction costs," but is the only definition of  
18 construction that I can find.

19 And I may have missed something, but in the  
20 short time available to us here as we sit in argument,  
21 that's all that occurs to me. At the same time, it's  
22 also clear to me that the normal definition of  
23 construction refers to the process of building. It does  
24 not necessarily include the process of planning to  
25 build, and it's not clear to me that the regulation used

1 the new reg 1657 definition or the more common  
2 definition.

3 I would add, however, that regardless of  
4 whether or not the term "construction" includes design,  
5 such as I think would apply to design drawings, it  
6 appears that the application does specifically address  
7 the cost of design. Not as a construction cost, but as  
8 a matter that has been funded or will be funded by the  
9 participants in the project indirectly.

10 And in that regard, I don't know if we're  
11 going beyond the question you asked, Your Honor. In  
12 that regard I would point to Chapter 1 of the license  
13 application, Section 1.6, Financial Qualifications,  
14 which discusses the amount of money that the PFS  
15 participants are committing to put up for Phase 4, which  
16 is defined to include "The NRC licensing proceeding as  
17 well as detailed design of bid specification. The  
18 budget for Step 4 is approximately \$23 million,  
19 including contingencies, to be funded by direct payment  
20 to the PFS, LLC, for the member utilities pursuant to  
21 subscription agreements. These step 4 payments will be  
22 made on a quarterly basis." And it goes on with a  
23 little more narrative discussion.

24 So the point I would make in closing, Your  
25 Honor, is whether or not it is -- whether or not design

1 drawings are included in the construction estimate seem  
2 not to be the whole issue. The issue is has it been  
3 addressed, and we believe that it has been.

4 JUDGE BOLLWERK: Addressed in --

5 MR. TURK: In the license application to be  
6 paid by subscription of the participating members in the  
7 PFS project.

8 MR. SILBERG: On an ongoing basis prior to  
9 construction.

10 JUDGE BOLLWERK: Does that answer the whole  
11 question, though?

12 MR. SILBERG: I believe it does. Therefore, a  
13 commitment that we have the money to construct the  
14 facility and to operate the facility and the state's  
15 fear that we will be short of money and, therefore, cut  
16 corners, has no bearing on this because these dollars  
17 have already been collected, committed and spent prior  
18 to construction. So a condition which requires us to  
19 show where we will get the money which we need to spend  
20 in the future ought not to have any bearing on money  
21 that's been collected and spent in the past.

22 JUDGE LAM: So what's spent is spent, correct?

23 MR. SILBERG: Correct.

24 JUDGE BOLLWERK: Ms. Curran.

25 MS. CURRAN: Well, the fact that money has

1 been spent already doesn't seem to us to resolve the  
2 question of whether PFS will attempt to recover it as a  
3 cost of this project. And we feel there's evidence in  
4 the record that PFS will try to recover this.  
5 Specifically on page 104 of the PFS 1998 Business Plan,  
6 there is a -- and I haven't prepared this as an Exhibit  
7 yet because we were going to put this on later on in our  
8 case, but there's a reference to --

9 MR. SILBERG: Excuse me. Is that one of your  
10 premarked Exhibits and, if so, what number is it just so  
11 I can --

12 MS. CURRAN: It isn't. I don't think we  
13 have -- I think we have excerpts from the '98 Business  
14 Plan that don't include this page.

15 MR. SILBERG: I'll get my Exhibit.

16 MS. CURRAN: I'll just wait until Mr. Silberg  
17 gets his copy.

18 MR. SILBERG: Well, we have to go downstairs  
19 to get it so it may be several minutes.

20 JUDGE BOLLWERK: Go ahead.

21 MS. CURRAN: Okay. Well, it's unclear to us  
22 what the situation is. There's a line item here under  
23 the heading Investments for -- that includes partners  
24 and donations, prelicensing partners and donations,  
25 licensing partners and donations, construction and

1 interest in other with a total input figure of  
2 [REDACTED] and there's another set of figures for  
3 interest with a total of [REDACTED]. And then there's  
4 a line that says "Transfer to equity at time of  
5 operation [REDACTED]."

6 Now, this may or may not be the -- include the  
7 [REDACTED] that was referenced by Mr. Silberg, but  
8 there's a line here that says "Return on equity earned  
9 [REDACTED], equity paid back at [REDACTED]." We  
10 don't see any stipulation anywhere that would bind PFS  
11 to a condition that it will not try to recover money  
12 already spent, and this piece of paper indicates to us  
13 that it will.

14 So it seems to us that unless PFS is going to  
15 say for purposes of a license condition the cost -- the  
16 money that we've already spent is not going to be  
17 recovered in this project, the costs of design drawings  
18 are not a cost that's going to be recovered in this  
19 project, then it needs to go in the estimate as  
20 something that conceivably the investors may want to  
21 recover.

22 In terms of what the regulations say and what  
23 the standard review plan says, I notice in the  
24 definition section that Mr. Turk was reading from the  
25 word "design" was used. To us the word "design" would

1 reasonably include design drawings. And anybody who has  
2 built a house or an addition on their house knows that  
3 if you're going to have somebody come and build  
4 something on your property they have got to have an  
5 adequate drawing that has detailed specifications as to  
6 what materials you need to buy and where you need to put  
7 it. I think Mr. Gase was saying that's a very important  
8 part of getting accurate bids and he also said that he  
9 estimated it would take 12 months for S&W to prepare  
10 these drawings. This is not an insignificant expense.

11 And finally, I think in order to resolve this  
12 issue one would need to go back to the history of the  
13 financial qualifications rule and what it means. That  
14 the general concept is that there should be some  
15 assurance that -- that corners will not be cut in order  
16 to recover costs.

17 MR. SILBERG: Mr. Chairman, it seems to me a  
18 little bit late for the state to be raising these  
19 issues. I would notice in the state's testimony, which  
20 has not yet been introduced, where they identify missing  
21 construction costs, this is question and answer 32 on  
22 page 24, I don't see anything about any of these costs.  
23 I don't see design, I don't see prelicensing, I don't  
24 see preconstruction. Now all of a sudden, on the verge  
25 of the hearing they want to add some new issues to their

1 Contention.

2           It seems to me that the scope of the licensing  
3 condition says will we have enough money to do what we  
4 need to do in the future. Now, whether or not this  
5 project turns a profit seems to me -- you know, whether  
6 there's money left over at the end seems to me  
7 irrelevant as to whether we have enough money to build  
8 it the way we're obligated to build it and to operate it  
9 the way we're obligated to operate it. And I think  
10 we're just going way beyond.

11           Whether or not the word "construction" as used  
12 in that definitions is meant to govern construction  
13 costs, I don't know, because I don't know how that term  
14 is used in the rest of the Standard Review Plan there.  
15 There are a lot of different ways that construction can  
16 be used, and I have no idea, not having looked at it,  
17 whether it has any relevance at all to this issue. It  
18 talks about components and we're not talking about --  
19 I'm talking about preconstruction work.

20           The analogy to Ms. Curran's analogy to  
21 building a house, you may draw up the plans for the  
22 house and you may have to buy the lot, but if you have  
23 to go out and finance or come up with the money so you  
24 don't cut corners when you're building a house, you're  
25 looking at the money you have to come up with to build

1 the house, not the money you've already spent to buy the  
2 land and to get the architect to do the drawings. And  
3 that's what we're talking about here.

4 So I think we're mixing apples and oranges and  
5 we're expanding the Contention way beyond what it's  
6 meant to, we're expanding the conditions way beyond what  
7 they're meant to do. If you read the state's own  
8 testimony, you're going way beyond what they thought  
9 this meant until this morning.

10 JUDGE BOLLWERK: Let me ask Mr. Turk if he has  
11 anything further to say and then I'll go back to you,  
12 Ms. Curran.

13 MR. TURK: I have nothing further at this  
14 time.

15 MR. BOLLWERK: Go ahead.

16 MS. CURRAN: Mr. Bollwerk, it's not clear  
17 whether this money has been spent yet on the design  
18 drawings and, as a matter of fact, it's probably  
19 doubtful that it's been spent since the drawings won't  
20 be -- well, I think they're at the point of being  
21 commenced now, and it's a project that will take about a  
22 year.

23 MR. SILBERG: All of which is before  
24 construction.

25 MS. CURRAN: Right. But at the moment it

1 hasn't been spent. In addition, the '98 Business Plan  
2 does show that starting in the year 2019 that -- in the  
3 first year that PFS receives spent fuel, PFS is planning  
4 to reduce its cash flow income by the amount of return  
5 on investment. So that it appears, at least in the  
6 operating costs, PFS plans to recover some of its --  
7 some of the costs that it's already incurred.

8           Finally, as to the scope of the Contention and  
9 the scope of the testimony, these witnesses have  
10 asserted that between the three witnesses on  
11 construction costs that what they have represented is  
12 the scope of construction costs for this project. And  
13 it seems to us that we are entitled to probe whether  
14 that construction cost estimate includes all reasonably  
15 relevant costs. So we're entitled to question these  
16 witnesses on what elements of costs may have been  
17 omitted and whether those are significant or not.

18           JUDGE BOLLWERK: I have no problem with that  
19 part of the question. What's causing me a difficulty is  
20 the second part of the question you directed to him  
21 which is, what are those costs. And that's what, once  
22 we begin to walk over that line, that's when we're  
23 getting into other areas. I mean, you can make your  
24 record preserving whatever information is here in terms  
25 of what is or isn't there, that I have no problem with.

1 But once you begin asking witnesses about what those  
2 costs are, once you're trying to make your case on  
3 cross-examination, then you've taken another step and  
4 that's what we're discussing. That's when we get into  
5 Mr. Silberg's area, which is what is the scope of the  
6 Contention.

7 MS. CURRAN: Well, the scope of the Contention  
8 clearly covers construction costs.

9 JUDGE BOLLWERK: That's true. And look at  
10 this and say it's designed and the answer to that is no.  
11 All right, that's fine. Are legal fees in there, no.  
12 But if you ask what are the legal fees then we've gone  
13 that second step and that's what we're considering right  
14 now.

15 All right. Any other thoughts?

16 JUDGE LAM: No.

17 JUDGE BOLLWERK: Would you read me the  
18 definition again in the Standard Review Plan?

19 MR. TURK: Yes, sir. Would it help if I bring  
20 up a definition to the desk? I believe it was the same  
21 definition in the draft.

22 JUDGE BOLLWERK: Has it changed any?

23 MR. TURK: Do you have any idea how it's used?  
24 Without going through it line by line I couldn't tell  
25 you. I'll bring the document to you.

1 JUDGE BOLLWERK: All right.

2 MS. CURRAN: Are you looking for the  
3 definition of construction?

4 JUDGE BOLLWERK: That's what Mr. Turk is going  
5 to give me here.

6 MR. TURK: This will be easier.

7 JUDGE BOLLWERK: Okay. This is from the  
8 glossary in the Standard Review Plan. This is the March  
9 2000 edition. I think what Ms. Curran has in front of  
10 her is the draft. It says, "Construction includes  
11 materials, design, fabrication, installation,  
12 examination, testing, inspection and certification as  
13 required in the manufacturing and installation of  
14 components."

15 MR. SILBERG: It's that later phrase which  
16 leads me to wonder how that term is used in the SRP  
17 because we're not talking about the manufacture or  
18 installation components. And I just don't know. It  
19 doesn't look to me like it necessarily is the endal and  
20 beall of construction.

21 MR. TURK: If I can add something, Your Honor,  
22 I did read the definition of construction which  
23 indicates that construction may not commence until  
24 license is issued. Obviously, many things can be done  
25 before construction commences, such as design, for

1 instance, and that use of the term "construction" would  
2 be the more general term which would be the process of  
3 building rather than the preconstruction activities.

4 JUDGE BOLLWERK: Correct.

5 MR. TURK: So it really is not clear whether  
6 the SRP's use of the term "construction" is the proper  
7 use of construction here. I'm almost --

8 JUDGE LAM: As a matter of fact, there's  
9 another definition in Part 72. In Part 72 there's a  
10 definition on commencement of construction.

11 MR. SILBERG: Right. That's what Sherwin is  
12 referring to.

13 MS. CURRAN: But just to comment on that for a  
14 minute, okay? I think we can all agree that  
15 commencement of construction involves when you begin to  
16 build and that it's reasonable to sort of set certain  
17 requirements at that date. But I don't think that  
18 answers the question of what is a construction cost  
19 because there are a number of costs related to  
20 construction that may be antecedents to the actual  
21 hammering of the nail.

22 MR. TURK: Judge, you're correct, that's the  
23 type of language I was looking for, which is the more  
24 general definition of the term "construction."

25 JUDGE LAM: That's in Part 72, right?

1 MR. TURK: Yes.

2 JUDGE LAM: The definition.

3 MS. CURRAN: I just want to -- I'm not sure  
4 that I understand the Board's problem completely, and I  
5 just wanted to clarify that there is no prohibition  
6 against the state making its case through  
7 cross-examination.

8 JUDGE BOLLWERK: I certainly recognize that as  
9 long as it's within the scope of the Contention. Nor do  
10 I have a problem with, frankly, you probing what is and  
11 isn't in this sheet of paper. I mean, I think that's  
12 fair game. What I'm concerned about within the scope of  
13 this Contention is trying to elicit from this witness  
14 the cost you want to put in the record. That's where I  
15 see this going and that's what's concerning me.

16 If you had a testimony that came forward and  
17 said, We think that the cost of design is X, then Mr.  
18 Silberg may at that point object to that as being  
19 outside the scope of the Contention.

20 Now, if I understand where you're going, and I  
21 don't want to put words in your mouth, but you're now  
22 trying to elicit from these witnesses that cost, which  
23 you then would have in the record, not having put in any  
24 direct testimony, but getting it in on  
25 cross-examination, that's when we begin to stray over.

1 If the scope of the Contention is what Mr. Silberg seems  
2 to think it is, then you're in an area that's outside  
3 the bounds of the Contention, if you see what I'm  
4 saying.

5 MS. CURRAN: Yes. But if one of the issues in  
6 the case is whether PFS has given an overly narrow  
7 definition of what is a construction cost.

8 JUDGE BOLLWERK: Correct.

9 MS. CURRAN: Then is it not useful and  
10 admissible for us to pursue the issue of a  
11 construction-related cost and what that is and then at  
12 some point in this proceeding the Board will have to  
13 decide, looking at the regulatory history and all the  
14 guidance and what makes sense, does this cost that's  
15 been identified belong in here. It seems to me that  
16 we're not -- we're not trying to bring in something  
17 that's totally unrelated. I could see that this would  
18 be a big problem if we were trying to raise some very  
19 tangential costs and try to find out what that is, but  
20 this is extremely closely related.

21 JUDGE BOLLWERK: Well, you have an argument  
22 that there's a relationship because there's the word  
23 "design" and clearly the word "design" is in the  
24 Standard Review plan. Let's take Mr. Silberg's point  
25 about legal fees. Are we then going to be talking about

1 legal fees or are we going to be talking about -- those  
2 are the sorts of things that, again, go to the scope of  
3 the conception.

4 MS. CURRAN: But each one has to be taken  
5 separately. We may reach different conclusions about  
6 legal fees, but in terms of the relevance of design  
7 drawings it seems to us that it's a different animal and  
8 should be looked at differently and that this should be  
9 considered by itself.

10 MR. SILBERG: Mr. Chairman, if I might. One  
11 key issue which we haven't focused on, which I really  
12 think is quite dispositive, if you look at the language  
13 in the license condition we're talking about, it really  
14 puts the -- I don't want to say puts the lie to because  
15 that's too pejorative -- but it demonstrates that the  
16 state's argument really can't stand.

17 License condition 1 says, "Construction of the  
18 facility shall not commence before funding (equity,  
19 revenue or debt) is fully committed and adequate to  
20 construct the facility with the additional capacity  
21 specified."

22 If their view is right, we are in violation of  
23 a license condition because we are already constructing.  
24 We have done design work, we have done licensing work.  
25 It can't mean what they say they're meaning. What we're

1 here to do is show how we will demonstrate compliance  
2 with this license condition. And if construction means  
3 what they say it means, it really means that we're all  
4 violating our license conditions right now.

5           If one looks at the commencement of  
6 construction regulations, in Part 50 where it defines  
7 when one can commence construction, you need a license  
8 before you can commence construction, it is quite clear  
9 that you can do the design, you can do licensing, you  
10 can do preconstruction work, you know, without a  
11 license, i.e., before construction. All of what the  
12 state is referring to is nonconstruction and, therefore,  
13 it's beyond the scope of this Contention. It's not that  
14 it may not be relevant to other parts of NRC's  
15 regulatory responsibilities, but it's simply not  
16 relevant to the issue that this Board is looking at.

17           JUDGE BOLLWERK: All right.

18           MS. CURRAN: May I respond?

19           JUDGE BOLLWERK: Right.

20           MS. CURRAN: The issue that concerns the state  
21 here is not -- certainly the license conditions are  
22 relevant, but the bottom line here is whether PFS  
23 complies with the financial assurance requirements.

24           Now, if you look at 72.22(e), subparagraphs 1,  
25 2 and 3, certainly convey the concept of cradle to

1 grave. We start with estimated construction costs in  
2 paragraph 1. Paragraph 2 covers estimated operating  
3 costs over the planned life of the ISFSI, and paragraph  
4 3 covers estimated decommissioning costs.

5 In other words, the NRC has got a regulatory  
6 scheme here in which it's trying to establish that a  
7 license application does not get a license until it has  
8 shown that it has the wherewithal to safely get through  
9 all these stages. And debating what is the definition  
10 of construction and trying to narrow that definition as  
11 much as possible, I don't think is faithful to that  
12 concept, the basic concept of this regulation, which is  
13 to prevent the cutting of corners, which is --

14 MR. SILBERG: Mr. Chairman? I'm sorry.

15 MS. CURRAN: -- which is -- to make sure that  
16 before construction begins that a company has all the  
17 resources it's going to need to build that facility  
18 safely. And if there is something going on in this  
19 project that is sort of sub-rosa or not completely  
20 disclosed here where the company is trying to take out  
21 funds and recover some costs that are related to this  
22 project, then you've got -- you've got a situation that  
23 is not faithful to the spirit of this rule.

24 MR. SILBERG: Mr. Chairman, if I might. I  
25 might agree completely with Ms. Curran in the abstract

1 in talking about what NRC regulations require. But  
2 we're not here to litigate NRC regulations, we're not  
3 here to litigate the NRC's overall licensing of this  
4 project. We're here to litigate contentions, we're here  
5 specifically to litigate basis 6 of Utah Contention E  
6 which states, "The applicant has failed to show that it  
7 has the necessary funds to cover the estimated costs of  
8 construction and operation of the proposed ISFSI because  
9 its costs are vague, generalized and understated."

10 And that's all we're doing here. We're not  
11 looking at cutting corners, we're not looking at  
12 financial assurance in the abstract or in the totality.  
13 We're looking at this specific issue. We spent a lot of  
14 time developing our testimony looking at this issue. We  
15 spent a lot of time reviewing the state's testimony,  
16 reviewing the depositions that were taken.

17 Now all of a sudden we're getting into a  
18 totally new area. There's no basis in this record that  
19 I'm aware that the scope of the Contention that Ms.  
20 Curran now wants to have us undertake, which is much  
21 broader than the scope of the Contention as we've always  
22 understood it, there's just no basis at this stage of  
23 the process to redefine what the Contention meant.  
24 We've spent a lot of time trying to specifically define  
25 what the issues are to litigate because that's what we

1 think this process is about. And now we're coming in  
2 with a whole new area not covered by any of our pieces  
3 of testimony for good reason, because we think, and we  
4 think correctly so, that it was outside the scope of  
5 this Contention.

6 JUDGE BOLLWERK: We need to move on here.  
7 I'll ask the staff, anything further the staff wants to  
8 say on the subject? Then, Ms. Curran, I'm going to ask  
9 you one more time if you have anything more to say and  
10 then we're going to talk for two seconds and make a  
11 ruling.

12 MR. TURK: The only thing I'd say, Your Honor,  
13 is on balance, considering the different definitions of  
14 construction, the fact that the license condition has  
15 been structured in a way that would prohibit the kinds  
16 of things that have taken place already, and certainly  
17 was not the intent of the staff nor of the regulations  
18 when we drafted that regulation, I think our conclusion  
19 is that the term "construction" does not include the  
20 preconstruction design activities that are referred to  
21 here.

22 JUDGE BOLLWERK: All right. Anything further  
23 you want to say?

24 MS. CURRAN: I didn't quite understand what  
25 Mr. Turk was saying about being prohibited by the

1 license conditions.

2 MR. TURK: The license condition as it was  
3 drafted by the staff and in Exhibit A would prohibit, as  
4 Mr. Silberg points out, the kinds of activities that are  
5 taking place in the next year, and that is the design  
6 drawings you're interested in exploring. It would seem  
7 the license would prohibit that and that was not our  
8 intent.

9 MS. CURRAN: Prohibit what?

10 MR. TURK: Performing detailed engineering  
11 drawings or design drawings.

12 MS. CURRAN: It would inhibit them being  
13 performed?

14 MR. TURK: Let me make sure it's clear. It  
15 was not our Contention or our understanding drafting the  
16 license agreement that we would be prohibiting PFS from  
17 doing design drawings before they get a license. That  
18 is not the intent of the license conditions, nor of our  
19 understanding of what is required by the regulations.  
20 So despite the fact that the SRP includes a definition  
21 of construction that would seem to include design in the  
22 term "construction," on balance, it is our belief that  
23 the term "construction" in the regulation does not  
24 include such design matters.

25 MS. CURRAN: Well, I don't think the question

1 is here whether the preparation of the design drawings  
2 should wait until after the license is issued. I think  
3 it's simply a question of whether this is a relevant  
4 cost for purposes of estimating the construction costs  
5 for this project. That's all I have.

6 JUDGE BOLLWERK: Okay. I think we have aired  
7 this very well. The Board is going to rule that the  
8 preconstruction costs are outside the scope of the  
9 regulation and the Contention in terms of the design and  
10 materials you wish to get into or any other costs that  
11 are to be considered preconstruction costs, costs that  
12 are incurred prior to construction beginning.

13 We will allow, if you wish to make your  
14 record, any questions you want to ask these witnesses  
15 about what costs went into the making up of these cost  
16 estimates so you can certainly ask them if the design  
17 costs that you're interested in are part of this  
18 construction cost estimate. If they're not, you can  
19 make your record in that respect. If there comes a  
20 point where you want to make a proffer as to what you  
21 think those costs are going to be you can put that on  
22 the record and preserve it that way and I will allow it  
23 and take whatever appeal you want to take with the  
24 commission. All right?

25 MR. SILBERG: Before we proceed, and I hate to

1 do this because Diane did say she was almost finished.

2 MS. CURRAN: I'm very close, Jay.

3 MR. SILBERG: Okay. I had promised I would  
4 raise the issue of getting Mr. Pickerl on sometime  
5 around now, but if Diane is really very close then I  
6 suspect we may ought to let her finish. We may way to  
7 defer redirect, but I may not have a lot of that either.

8 JUDGE BOLLWERK: Mr. Turk?

9 MR. TURK: May I retrieve my manual?

10 JUDGE BOLLWERK: Oh, yes.

11 MS. CURRAN: Sherwin, while you're doing that,  
12 would you give this back to the Board?

13 JUDGE BOLLWERK: I was trying to run away with  
14 it. Here we go. We'll shift the paper around here and  
15 then we'll go forward.

16 Q. (BY MS. CURRAN) Does the cost estimate that  
17 you have prepared include any estimate for design,  
18 detailed design drawings or any other design drawings?

19 A. (Witness Takacs) No, it does not.

20 Q. I would like you to look at the last page of  
21 your Exhibit D. Is it correct that you have some  
22 figures here for the intermodal transfer point?

23 A. (Witness Takacs) Yes, we do.

24 Q. It appears to me that there are a couple of  
25 things missing here that we have seen elsewhere and I

1 would just like to ask you about those. Are you  
2 familiar with a cost estimate or an -- it's actually an  
3 interoffice memorandum that was done by a company called  
4 Carter Concrete Products for improving Skull Valley  
5 Road?

6 A. (Witness Takacs) No, I'm not familiar with  
7 that.

8 Q. Did you attempt to make any estimate for  
9 improvements to Skull Valley Road itself?

10 A. (Witness Takacs) No, I didn't.

11 Q. Why is that?

12 A. (Witness Takacs) It wasn't brought up that it  
13 was an issue that needed to be estimated.

14 Q. Okay. Did you make any attempt to do a cost  
15 estimate for the road that would connect Skull Valley  
16 Road with the ISFSI?

17 A. (Witness Tackacz) The site access road?

18 Q. Right.

19 A. (Witness Tackacz) Yes, it's part of this  
20 estimate.

21 Q. And where is that --

22 A. (Witness Tackacz) It's in Phase I.

23 MR. SILBERG: If you will look on page 2, look  
24 at the bottom next to the last category, roads and  
25 parking, the first item.

1 Q. (BY MS. CURRAN) This item under site access  
2 road allowance? Is that it?

3 A. (Witness Tackacz) The [REDACTED], yes.

4 Q. Does this come from the transportation plan?

5 A. (Witness Tackacz) That came from discussion  
6 with the estimator that worked on the transportation  
7 plan.

8 Q. Okay. Have you been asked to create any cost  
9 estimates for heavy haul trucks for the intermodal  
10 transfer point?

11 A. (Witness Tackacz) No.

12 Q. Do you know if any party has been asked to do  
13 such estimates?

14 A. (Witness Tackacz) I believe they exist, but I  
15 don't know what they are and I wasn't involved.

16 Q. Okay. Does your estimate contain any cost  
17 estimate for a concrete batch plant for the manufacture  
18 of storage casks?

19 A. (Witness Tackacz) No.

20 Q. Were you given any information related to such  
21 a concrete batch plant?

22 A. (Witness Tackacz) No.

23 Q. Does your construction cost estimate take into  
24 account capital renewal for pieces of equipment at the  
25 facility?

1 A. (Witness Tackacz) No.

2 Q. Is there a reason for this?

3 A. (Witness Tackacz) Pieces of equipment, like a  
4 truck?

5 Q. Well, let's take --

6 A. (Witness Tackacz) My estimate is a capital  
7 cost estimate once the facility is built and everything  
8 else becomes operating and maintenance which is out of  
9 my scope.

10 Q. So the first piece of equipment that goes in  
11 is a construction cost and if it has to be replaced that  
12 becomes an O&M cost?

13 A. (Witness Tackacz) For example, the overhead  
14 crane that's in the canister transfer, yes.

15 Q. Is that typical, in your experience?

16 A. (Witness Tackacz) Yes.

17 Q. I notice that your cost estimate is broken  
18 down into Phase I, Phase 2 and Phase 3; is that correct?

19 A. (Witness Tackacz) Yes.

20 Q. What were you given to understand about what  
21 those phases meant?

22 A. (Witness Tackacz) Well, discussion with the  
23 project group, it was at least anticipated the plan, as  
24 it's written at the time that I was doing the estimate,  
25 that a certain amount of the facilities would be built

1 first and then the remaining parts of the facilities  
2 would be built in a phased approach.

3 MS. CURRAN: That concludes my questions.

4 JUDGE BOLLWERK: All right. Staff,  
5 cross-examination, then?

6 CROSS-EXAMINATION

7 BY MS. MARCO:

8 Q. Hi. Are you familiar with the term "probable  
9 maximum flood"?

10 A. No.

11 MS. MARCO: I have no more questions. That's  
12 it.

13 JUDGE BOLLWERK: That's it? Any redirect  
14 then?

15 MR. SILBERG: Yes, if we could have a  
16 five-minute break.

17 JUDGE BOLLWERK: All right.

18 MS. CURRAN: Mr. Pickerl may not get on if you  
19 do that.

20 MR. SILBERG: Well, then if that's a problem  
21 we could go to Mr. Pickerl now.

22 MS. CURRAN: I'm teasing you.

23 (A recess was taken.)

24 JUDGE BOLLWERK: On the record.

25 MR. SILBERG: I'm sorry, we didn't have

1 questions from the Board?

2 JUDGE BOLLWERK: Why don't you direct your  
3 redirect.

4 . REDIRECT EXAMINATION

5 BY MR. SILBERG:

6 Q. I have a very small numbers of questions Mr.  
7 Takacs, when you looked at the drawings from which you  
8 developed your cost estimates, did those drawings have  
9 dimensions for the buildings in addition to the canister  
10 transfer building and the pad?

11 A. (Witness Takacs) Yes, they did.

12 Q. And were those drawings adequate for you to  
13 determine the quantities of material and the amounts of  
14 labor needed to construct those facilities?

15 A. (Witness Tackacz) Yes, they were.

16 Q. Could you tell me how you adjusted your  
17 estimates, including the data that you derived from the  
18 Stone & Webster database to take into account geographic  
19 conditions?

20 A. (Witness Tackacz) Well, we obtained labor  
21 rates that were in effect for the Salt Lake City area.  
22 From that were able to build up labor costs related to  
23 this specific site and then analyze the expected  
24 productivity we would have in this area for this job.

25 Q. And how did you adjust or did you adjust for

1 the weather conditions which might affect the placement  
2 of concrete?

3 A. Well, we didn't feel there was a serious  
4 weather condition, but the prices do reflect that on  
5 occasion certain requirements would have to be taken  
6 into account.

7 Q. In response to a question from Ms. Curran you  
8 indicated you thought the margin of error in your  
9 estimates was a minus 15 to a plus 25 percent. Could  
10 you tell me where that definition came from?

11 A. (Witness Tackacz) Well, the -- I guess  
12 stretching there I was trying to find something to suit  
13 this type of estimate, the American Association of Cost  
14 Engineers, and I don't know if the numbers are exact, I  
15 may be off slightly, but for a budget or preliminary  
16 type estimate that they qualify or believe that's the  
17 approximate range of accuracy. In retrospect, I would  
18 expect costs here to be under what we have.

19 Q. When you say "under," under what, under your  
20 estimate?

21 A. (Witness Tackacz) Plus the contingency, yes.

22 Q. And the association that you referred to is  
23 the recognized international association for cost  
24 estimators?

25 A. (Witness Tackacz) They're probably one of the

1 more recognized, yes, for dealing in the field of cost  
2 estimating, cost control and scheduling, project  
3 management.

4 Q. In response to a question I believe I heard  
5 you say that there was were no seismic criteria for  
6 systems and components within the canister transfer  
7 building that you used in coming up with a price  
8 estimate. The crane is a component within the canister  
9 transfer building; is that correct?

10 A. (Witness Tackacz) Yes, it is.

11 Q. And did the crane estimate or vendor  
12 information include seismic information?

13 A. (Witness Tackacz) I believe they had  
14 seismically qualified the crane when they gave us the  
15 price for it, yes.

16 Q. And are there any other significant  
17 seismic-related costs that you would anticipate in the  
18 canister transfer building besides the building itself  
19 and the crane?

20 A. (Witness Tackacz) Basically just the building  
21 structure and the crane.

22 Q. You indicated that your cost estimate did not  
23 include the cost of a concrete batch plant. How did you  
24 price concrete in your estimate?

25 A. (Witness Tackacz) Reflecting a concrete

1 supply from basically what we would expect to get in the  
2 Salt Lake City area or region. Anything beyond that  
3 would be studies done at a later date.

4 Q. And would you expect that the price of  
5 concrete from a concrete batch plant would be greater or  
6 less than the number that you used in your estimates?

7 A. (Witness Tackacz) I anticipate we should be  
8 able to save some money that way.

9 Q. So the costs would be lower?

10 A. (Witness Tackacz) Yes.

11 MR. SILBERG: Those are all the questions I  
12 have.

13 JUDGE BOLLWERK: Any recross?

14 MS. CURRAN: Yes.

15 RE-CROSS-EXAMINATION

16 BY MS. CURRAN:

17 Q. On the concrete batch plant, the concrete  
18 estimate or estimates that you have included in your  
19 estimate, do these include concrete to be used for the  
20 construction of storage casks?

21 A. (Witness Tackacz) No, they don't. I did not  
22 do that part.

23 Q. Do you know what standard to which the crane  
24 and the buildings at the PFS site were qualified to?

25 A. (Witness Tackacz) No, I don't.

1 MS. CURRAN: That's all.

2 JUDGE BOLLWERK: Could I ask, when you said  
3 "standard" you meant seismic standard or some other  
4 standard?

5 MS. CURRAN: Seismic.

6 JUDGE BOLLWERK: I just wanted to make sure  
7 the question was clear. That was the question you were  
8 answering, correct?

9 WITNESS TAKACS: Yes.

10 JUDGE BOLLWERK: Any other questions? Judge  
11 Lam?

12 JUDGE LAM: I had a couple of questions for  
13 Mr. Takacs. You applied a [REDACTED] contingency in the  
14 cost estimate?

15 WITNESS TAKACS: Yes.

16 JUDGE LAM: What does that [REDACTED] cover?

17 WITNESS TAKACS: Any unknowns at this point in  
18 time or changes, minor changes in scope or unknowns or  
19 price changes or changes in design concept from what was  
20 shown on the drawings.

21 JUDGE LAM: So basically anything that's  
22 unknown at this time?

23 WITNESS TAKACS: Well, it wouldn't cover -- if  
24 you had a -- yes.

25 JUDGE LAM: Would another reasonable estimate

1 would use a different contingency factor?

2 WITNESS TAKACS: Oh, you might get as many  
3 different numbers as you ask people. And we use  
4 different numbers, yes, from time to time.

5 JUDGE LAM: By looking at Appendix B, I see  
6 many, many separate items.

7 MR. SILBERG: That's Exhibit D.

8 JUDGE LAM: D?

9 JUDGE BOLLWERK: Yes.

10 JUDGE LAM: I stand corrected. Now, the  
11 question is, is there a potential for propagation of  
12 errors, assuming that errors can cause imprecision in  
13 estimating each and every one of these cost items, in  
14 the end you add them up?

15 WITNESS TAKACS: Yes.

16 JUDE LAM: Is there any potential for  
17 propagation of error by which I mean one makes a precise  
18 estimate on one item, and that imprecision would lead to  
19 a magnify imprecision or uncertainty in a related item?

20 WITNESS TAKACS: I don't think so.

21 JUDGE LAM: Why?

22 WITNESS TAKACS: Well, if, say, like the price  
23 of concrete is related to the price of concrete, if it's  
24 off by, say, like it goes up 10 percent or goes down 10  
25 percent it's only going to affect the price of the

1 concrete, it's not really going to affect the price of  
2 rebar or far more -- it affects just those components.  
3 So I don't see a compounding effect.

4 JUDGE LAM: So the uncertainty additive,  
5 there's no multiplication?

6 WITNESS TAKACS: Right. I don't think so, no.  
7 Each one stands alone. Each component could be plus or  
8 minus some value, but the fact that item A is plus 10  
9 percent doesn't mean that item B is going to be plus 10  
10 times 10 and item C, 10 times 10 times 10, no.

11 JUDGE LAM: Can it be another reasonably  
12 capable estimator could come up with some number very  
13 significantly different than yours?

14 WITNESS TAKACS: Significantly different?

15 JUDGE LAM: Yes, such as two, three.

16 WITNESS TAKACS: I don't think so.

17 JUDGE BOLLWERK: Judge Kline?

18 I don't have any questions for the panel.

19 MR. SILBERG: We have nothing further so I  
20 would ask that the panel be dismissed at this time.

21 JUDGE BOLLWERK: Subject to recall, yes.  
22 Gentlemen, you are dismissed. Thank you very much for  
23 continuing to give your service to the Board.

24 MR. SILBERG: At this time we would like to  
25 introduce the testimony of Hanson Pickerl and I would

1 ask Mr. Gaukler to do that.

2 JUDGE BOLLWERK: All right. Is everybody  
3 switched, has everybody shifted? Does the court  
4 reporter have a copy of Mr. Pickerl's --

5 MR. GAUKLER: We're getting one for the court  
6 reporter right now.

7 JUDGE BOLLWERK: Mr. Pickerl, if you could  
8 raise your right hand, please.

9 HANSON PICKERL  
10 called as a witness, being first duly sworn, was  
11 examined and testified as follows:

12 DIRECT EXAMINATION

13 BY MR. GAUKLER:

14 Q. Mr. Pickerl, will be the truth, the whole  
15 truth and nothing but the truth?

16 A. I do.

17 JUDGE BOLLWERK: You've been sworn.

18 Q. (BY MR. GAUKLER) Mr. Pickerl, do you have a  
19 copy of your testimony in front of you?

20 A. Yes.

21 Q. And is it testimony dated June 15, 2000?

22 A. That's correct.

23 Q. Revised per Board Order of June 12, 2000? Do  
24 you see that in the title?

25 A. Yes.

1 Q. Have you had an opportunity to review this?

2 A. Yes.

3 Q. Do you have any changes or corrections to your  
4 testimony?

5 A. No.

6 Q. As attachment 1 to the testimony, would you  
7 describe what that is, please?

8 A. My personal resume.

9 Q. And do you have any changes to your personal  
10 resume?

11 A. None.

12 Q. Do you adopt this testimony as your own?

13 A. Yes.

14 Q. And was this prepared by you for this  
15 proceeding?

16 A. Yes.

17 Q. I would request that the testimony be inserted  
18 into the transcript as if read at this hearing.

19 JUDGE BOLLWERK: Any objections?

20 MS. NAKAHARA: No.

21 JUDGE BOLLWERK: Then the attachment with his  
22 resume or curriculum vitae will be admitted and bound  
23 into the record as read as this point in the transcript.

24 /

25 /

1 [Whereupon, the direct written  
2 testimony of Mr. Pickerl was inserted  
3 in the record.]  
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June 15, 2000

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the Atomic Safety and Licensing Board

In the Matter of )  
 )  
PRIVATE FUEL STORAGE L.L.C. ) Docket No. 72-22  
 )  
(Private Fuel Storage Facility) ) ASLBP No. 97-732-02-ISFSI

TESTIMONY OF HANSON D. PICKERL ON  
NUCLEAR PROPERTY INSURANCE FOR THE PFSF  
CONTENTION UTAH E/CONFEDERATED TRIBES F  
(Revised per Board Order of June 12, 2000)

I. BACKGROUND

Q1. Please state your full name.

A1. Hanson Douglas Pickerl

Q2. By whom are you employed and what is your position?

A2. I am Senior Vice President, Client Executive, and Manager, of the Midwest Region Marsh Power Group, a client/industry specialty group of Marsh USA, Inc. Marsh USA is a subsidiary of the world's largest insurance broker and risk management service company.

Q3. Please summarize your educational and professional qualifications

A3. I received a Bachelor of Science Degree (Physics) from the US Naval Academy (1980) and a Master of Business Administration (Financial Management) from the University of Chicago (1989). I completed the requirements for Nuclear Engineer Officer in the US Navy Nuclear Submarine Program and from 1980 to 1985 I served as a Division Officer on a U.S. Navy nuclear submarine. My

curriculum vitae setting forth my educational and professional qualifications is provided as Attachment 1 to my testimony.

**Q4.** What is your experience with the nuclear insurance industry?

**A4.** I have been a member of the Marsh Nuclear professional staff (part of the Marsh Power Group) since July 1, 1985, and have been responsible for all aspects of nuclear insurance procurement and administration for utility and nuclear industry clients.

**Q5.** What is your experience with and base of knowledge regarding property insurance for nuclear facilities?

**A5.** I have been involved with nuclear property insurance brokerage and consulting services for my entire career with Marsh USA and its predecessors, and possess a strong working knowledge of insurance terms, conditions, marketing, cost forecasting, rating analysis, and claim settlements.

**Q6.** Are you familiar with the Private Fuel Storage Facility (PFSF) and the activities that will take place there?

**A6.** Yes.

**Q7.** What is the basis of your familiarity with the PFSF?

**A7.** I have reviewed written material prepared for various PFSF regulatory filings, participated in numerous meetings and conversations with PFSF managers, and am generally aware of the use of similar fuel storage technology at several US commercial nuclear reactor facilities.

**Q8.** What is the purpose of your testimony?

**A8.** The purpose of my testimony is to describe the cost, availability, and scope of coverage concerning nuclear property insurance for the PFSF and also to describe the cost of nuclear liability insurance for the PFSF.

**II. NUCLEAR PROPERTY INSURANCE FOR THE PFSF**

**A. Definition**

**Q9.** What is nuclear property insurance and what would it cover at the PFSF?

**A9.** Nuclear property insurance indemnifies the policyholder for certain losses incurred from accidental damage at the insured premises. The coverage is written on an "All-Risk" basis, meaning all types of property are covered and for all causes of loss, except where excluded in the policy. A key coverage provision in nuclear property insurance is that accidental radioactive contamination and debris removal are covered perils, subject to policy terms and conditions.

**B. Availability and Cost**

**Q10.** Is nuclear property insurance currently available for the PFSF?

**A10.** Yes.

**Q11.** What is the basis for your information regarding the availability of coverage for the PFSF?

**A11.** Marsh USA presented underwriting information on PFSF to the insurance markets who are in the business of providing coverage for nuclear risks. This information included technical and business information concerning the PFSF so that the insurance markets could determine overall risk exposure and establishing an appropriate premium. Marsh USA has served as PFSF's intermediary in presenting the risk to the insurers, and has received indications of insurers' willingness to participate.

**Q12.** Who are the potential providers of property insurance for the PFSF?

**A12.** Nuclear Electric Insurance Limited (NEIL) is the principal market for the provision of nuclear property insurance coverage, along with smaller participation from nuclear insurers in London.

**Q13.** How much coverage for the PFSF would be available from those providers?

~~PROPRIETARY INFORMATION~~

A13. In the letter from NEIL to John D. Parkyn, Chairman of PFS, NEIL has stated that it would be willing to provide a maximum of [REDACTED] of on-site property insurance coverage for the PFSF. In addition, Marsh has received an indication that an additional [REDACTED] of property insurance coverage would be available from the London companies, for a total of [REDACTED].

Q14. How much would this coverage for the PFSF cost?

A14. NEIL has stated that the annual premium for the [REDACTED] of coverage that it would provide for the PFSF would be [REDACTED] with the additional [REDACTED] being offered by the London companies for the same rate, or [REDACTED] in annual premium.

Q15. Would you expect that the amount of spent fuel would be considered in connection with the coverage discussed above?

A15. Yes. As stated in NEIL's letter to PFS, the cost of coverage quoted above is based on information in the PFSF License Application, the Safety Analysis Report, the Environmental Report, and the Nuclear Regulatory Commission Staff's partial Safety Evaluation Report of December 1999, all of which clearly set forth that the maximum capacity of the PFSF will be 4,000 spent fuel storage casks.

Q16. Would you expect that the cost of coverage would reflect the potential risks associated with storing spent fuel at the PFSF?

A16. Yes. Insurance pricing is based upon, among other things, the insurer's assessment of the frequency and severity of losses expected in the future, actual loss data where it is available, and underwriter comparisons with pricing for other classes of nuclear risks, as well as general market conditions. NEIL's letter to PFS noted its belief that the [REDACTED] would be more than adequate based upon the significantly lower level of risk of damage associated with the passive storage of spent nuclear fuel in sealed canisters as compare to the risks associated with an operating nuclear power plant.

Q17. Would you expect that the cost of coverage would change over the 40-year (assuming renewal) license term of the PFSF?

~~PROPRIETARY INFORMATION~~

A17. Global insurance markets have historically exhibited cyclical behavior with respect to the cost of insurance and amount of coverage provided, and it is reasonable to expect this in the future. Insurance companies are susceptible to earnings volatility not only from their insured losses, but also from external factors such as overall economic conditions and interest rates. It is reasonable to expect premium fluctuations to, in general, follow the general marketplace trends, as well as industry and site-specific factors. We have observed general price stability in this market segment over the past 10 years.

Q18. Are there any other sources of reasonably available property insurance coverage for the PFSF?

A18. We have presented this business opportunity to the insurers whom we believe to be the most likely sources of coverage and who provide nuclear property insurance on an on-going basis. The results of our marketing efforts have yielded the offered capacity of [REDACTED]

Q19. Are there any other potential sources of coverage that you consider not reasonably available?

A19. As with any insurance market, the level of interest on the part of underwriters will be driven in part by the offered price. It is possible that some additional capacity could be attracted, but not without a substantial premium increase. Even then, in my opinion the likely additional capacity would probably not be much more than an additional [REDACTED] of coverage.

A unique feature of nuclear insurance is the fact that much of the global market capacity comes from the worldwide pooling system, as well as from various reinsurance contracts. In these systems, many insurance companies each contribute a small amount of their capacity to the nuclear insurance pools or to the nuclear mutual companies (such as NEIL), either directly or in the form of reinsurance. Once an insurance company makes a capacity commitment of this nature, it typically declines to participate on the risk in some other way, to avoid concentrating its risk exposure in any one area. In the case of reinsurance,

~~PROPRIETARY INFORMATION~~

virtually all reinsurance contracts contain nuclear exclusions, again in order to prevent multiple capacity commitments exposed to the same loss.

**Q20.** Why do you not consider coverage in excess of that described in your answer to Question 19 to be reasonably available?

**A20.** As explained above, restrictions in the form of reinsurance contract exclusions and pre-existing capacity commitments elsewhere limit the number of markets that can participate on nuclear risks. These restrictions, combined with the unfavorable cost variances that would result in adjusting the proposed premium upward, would in all likelihood yield only a small, marginal increase in the amount of coverage in exchange for the significantly higher cost.

**III. NUCLEAR PROPERTY INSURANCE CONCLUSION**

**Q21.** In conclusion, is [REDACTED] the maximum amount of nuclear property insurance coverage available for the PFSF at reasonable terms and conditions?

**A21.** In my opinion, yes.

**IV. NUCLEAR LIABILITY INSURANCE FOR THE PFSF**

**Q22.** Are you familiar with the market for nuclear liability insurance?

**A22.** Yes.

**Q23.** If PFS were to obtain \$200 million in coverage from generally available private sources, approximately how much would it cost?

**A23.** Although it is only a preliminary verbal indication, I have recently inquired and been advised by the underwriters that \$200 million in nuclear liability insurance for the PFSF would cost approximately [REDACTED] per year. As with property insurance, it is reasonable to expect premium fluctuations to, in general, follow the general marketplace trends, as well as industry-specific factors, but as with property insurance, we have observed general price stability in this market segment over the past 10 years.

**Hanson Pickerl**

**Senior Vice President  
Marsh USA Inc.**

Hanson Pickerl joined the Chicago office of Marsh Inc. in 1985 after serving as a commissioned officer in the United States Navy nuclear submarine program. He is responsible for all aspects of business production and account management for manufacturing and energy companies and their subsidiaries in the central U.S. He serves as the principal point of contact for his clients and as liaison with all resources of Marsh & McLennan Companies, a global financial services corporation specializing in risk management and insurance services, consulting, and investment management.

Mr. Pickerl's account responsibilities include several large energy companies operating both fossil and nuclear generation plants, as well as corporations involved in wire and cable manufacturing, industrial boiler and water treatment equipment production, and nuclear fuel fabrication. He manages the placement and service for all lines of insurance for his clients, as well as captive insurance company formation, strategic and integrated risk assessments, and synthetic/financial insurance program development.

Mr. Pickerl holds a Bachelor of Science degree in Physics from the United States Naval Academy in Annapolis, Maryland, and a Masters in Business Administration, Financial Management specialization, from the University of Chicago Graduate School of Business.

1 JUDGE BOLLWERK: And were there any Exhibits  
2 for this witness?

3 MR. GAUKLER: Yes. I'm going to go to that  
4 now.

5 Q. (BY MR. GAUKLER) Mr. Pickerl, will you please  
6 look at Exhibit F attached to your testimony?

7 A. Yes.

8 Q. And that consists of two pages. One is a  
9 cover page from a fax of NEIL to a firm in Delaware,  
10 Wilmington, Delaware?

11 A. Yes.

12 Q. And the second page is a letter from Lawrence  
13 Krantz to Mr. John Parkyn?

14 A. Yes.

15 Q. Are you familiar with this Exhibit?

16 A. Yes.

17 Q. And are you ready to answer questions with  
18 respect to this Exhibit?

19 A. Yes.

20 MR. GAUKLER: I would ask that Exhibit F be  
21 identified, this document be identified as PFS  
22 Exhibit F.

23 JUDGE BOLLWERK: All right. Let the record  
24 reflect that the document, as previously described, has  
25 been marked and identified as PFS Exhibit F.

1 [Applicant's Exhibit F  
2 was marked for identification.]

3 MR. GAUKLER: And I would request that it be  
4 admitted into the record.

5 JUDGE BOLLWERK: Are there any objections to  
6 PSF 7, what has been identified as PFS Exhibit F?

7 MS. NAKAHARA: No.

8 JUDGE BOLLWERK: Then the document PFS  
9 Exhibit F is received in evidence.

10 [Applicant's Exhibit F  
11 was received into evidence.]

12 MR. GAUKLER: That's it, Your Honor, and I  
13 proffer Mr. Pickerl for cross-examination.

14 MS. NAKAHARA: May I approach?

15 JUDGE BOLLWERK: Yes.

16 JUDGE LAM: Ms. Nakahara, are you going to be  
17 doing the cross-examination?

18 MS. NAKAHARA: Yes.

19 MR. GAUKLER: Excuse me, Your Honor. I forgot  
20 to introduce Mr. Michael Cook, he's from the firm of  
21 Ross & Hard in Chicago and he's with the law firm who  
22 are representing Marsh McLennan generally and Mr.  
23 Pickerl today.

24 JUDGE BOLLWERK: All right.

25 /

## 1 CROSS-EXAMINATION

2 BY MS. NAKAHARA:

3 Q. Good morning, Mr. Pickerl.

4 A. Good morning.

5 Q. My name is Connie Nakahara and I represent the  
6 state. If at any time you don't understand my question,  
7 please ask me to clarify.8 If you will look at your testimony on page 2,  
9 your answer to question number 4, is it correct that you  
10 state you have been responsible for all aspects of  
11 nuclear insurance procurement and administration for  
12 utility and nuclear industry clients?

13 A. Yes.

14 Q. Could you explain what you mean by  
15 "administration for utility clients"?16 A. Yes. The relationship that we have with our  
17 clients requires correspondence between ourselves and  
18 our clients and between ourselves and the insurance  
19 markets. And we serve as the intermediary, Marsh &  
20 McLennan is not an insurance company, we're an insurance  
21 intermediary or brokerage firm. And so we are hired by  
22 our clients to represent them in the global insurance  
23 marketplace. So any communications relating to the  
24 placement of a policy, the renewal of a policy, the  
25 settlement of claims, administration of engineering

1 related information, technical information, loss  
2 information, etc., we serve as the intermediary, the  
3 conduit of communication between client and insurer.

4 Q. And if you'll look at your response to  
5 question 5, is it correct that you indicate that you do  
6 consulting services or you have done consulting services  
7 for your entire career with Marsh USA?

8 A. Yes, that is correct.

9 Q. Are these consulting services that you refer  
10 to, are they any different than your responsibilities  
11 under -- strike that.

12 These consulting services, as they relate to  
13 providing information for nuclear insurance procurement,  
14 these consulting services, are there any additional  
15 duties that you provide for nuclear clients?

16 A. On an ad hoc basis. If a client is engaged,  
17 for example, in a nuclear power plant purchase or sale  
18 then there are unique steps and procedures that have to  
19 be taken that are not done in the normal course of the  
20 professional relationship. And so that's -- we just  
21 refer to it as consulting because it's something that is  
22 not done -- it's only done on an as-needed basis.

23 Q. Thank you.

24 How many nuclear clients do you have that have  
25 ISFSIs, spent fuel storage facilities?

1 MR. SILBERG: Excuse me. Do you mean Mr.  
2 Pickerl personally or Marsh McLennan?

3 Q. (BY MS. NAKAHARA) Well, Mr. Pickerl  
4 personally.

5 A. Well, in addition to Private Fuel Storage, I  
6 have currently one other client who is operating a  
7 independent spent fuel storage installation as part of a  
8 nuclear reactor installation.

9 Q. If you'll refer to your testimony to answer 13  
10 on page 3, is it correct that you testified that London  
11 companies are willing to provide an additional coverage  
12 of [REDACTED] for nuclear property insurance?

13 A. That is correct.

14 Q. Who are these lending companies, can you name  
15 them?

16 A. Yes. They are syndicates associated with  
17 Lloyd's, one is the Dawson Syndicate, D-A-W-S-O-N  
18 Syndicate, and the other is Ace International, Ace is  
19 A-C-E.

20 Q. Are these two separate entities --

21 A. Yes.

22 Q. -- that are willing to provide --

23 A. In combination, [REDACTED] total between the  
24 two.

25 Q. And do you have any written confirmation of

1 their willingness to provide?

2 A. No. Communications have been telephonic.

3 Q. And do you know how the Dawson Syndicate  
4 determined the amount that they would offer?

5 A. I do not know what steps they took  
6 specifically to determine the deployment of capacity on  
7 this, no.

8 Q. Do you know how -- I'm sorry, did you say Ace?

9 A. Ace International, yes.

10 Q. -- Ace international determined the amount  
11 that they would offer?

12 A. No.

13 Q. And if you'll now look at PFS Exhibit F on the  
14 second page, which is the letter from Lawrence Frantz to  
15 Mr. Parkyn, Mr. John Parkyn.

16 A. Yes.

17 Q. Let me step back one. Also on page 3 of your  
18 testimony, your answer to question number 11, you  
19 indicated that Marsh USA presented underwriting  
20 information on PFS to the insurance markets who were in  
21 the business of providing insurance coverage for nuclear  
22 risk. When did you present this information?

23 A. This -- I cannot remember exactly when it was.  
24 We have actually been involved in this project since  
25 1994 when it was referred to as the Mescalero project.

1 So that's when original communications began. So we  
2 have been -- since 1997, 1998, 1999 as more information  
3 has been made available, we have forwarded it to the  
4 insurer. So the information transmittal has been over a  
5 multi-year span.

6 Q. When was the last transmittal made?

7 A. It was, I believe, in February or March of  
8 this year. I can't recall exactly.

9 Q. And that was to Nuclear Electric Insurance  
10 Limited?

11 A. Yes. That was to NEIL, referred to as NEIL.  
12 Also, for purposes of the nuclear liability coverage we  
13 sent the same information to American Western Insurers  
14 in West Hartford, Connecticut. And for purposes of  
15 supporting the marketing effort in London, I have  
16 provided the information to my correspondent in our  
17 London office.

18 MR. SILBERG: Just for the reporters, when  
19 it's referred to as NEIL, it's N-E-I-L, all caps.

20 THE REPORTER: Thank you.

21 Q. (BY MS. NAKAHARA) Now if you would look at  
22 PFS Exhibit F and look at the second paragraph where Mr.  
23 Frantz indicates that he has reviewed information  
24 concerning the design and operation of the PFS facility,  
25 including the License Application, the Safety Analysis

1 Report, Environmental Report and the NRC staff's partial  
2 SER, Safety Evaluation Report of December 1999, and  
3 other related information.

4 What other information, other than those  
5 documents, did you provide to NEIL?

6 A. The only information that I provided that was  
7 not included in all of that material was reference to  
8 the PFS website.

9 Q. And do you know what revision of the License  
10 Application, the Safety Analysis Report, and the  
11 Environmental Report NEIL had access to?

12 A. I cannot remember which one it was. The  
13 latest made available to us, and I'm sorry, I don't know  
14 what number it was.

15 Q. Mr. Frantz references that they reviewed, NEIL  
16 reviewed the Safety Evaluation Report conducted by the  
17 NRC staff. Are you aware of what impact the NRC's  
18 determination in the Safety Evaluation Report had on  
19 NEIL's decision to offer insurance?

20 A. No. I did not have any conversation or engage  
21 in any written communication on that topic.

22 Q. If you'll look at the second paragraph, is it  
23 correct that NEIL believes the [REDACTED] coverage is  
24 adequate for the PFS facility?

25 A. That's the third paragraph?

1 Q. Yes.

2 MR. SILBERG: Excuse me. Just for  
3 clarification, does that say adequate or more than  
4 adequate?

5 MS. NAKAHARA: It says more than adequate.

6 Q. (BY MS. NAKAHARA) But is it your  
7 understanding -- I should say, does this paragraph say  
8 that NEIL believes the [REDACTED] in coverage is more  
9 than adequate for the Private Fuel Storage facility?

10 A. Yes, I acknowledge that this is NEIL's stated  
11 opinion.

12 Q. Do you know how NEIL assessed that the [REDACTED]  
13 [REDACTED] was more than adequate?

14 A. On -- I do not know the specific steps that  
15 they took in doing their underwriting assessment on  
16 this, on this particular risk.

17 Q. Then is it correct that you have not seen any  
18 written assessment on how NEIL determined the adequacy  
19 of coverage?

20 A. I have not seen any internal NEIL documents  
21 that review -- that pertain to any sort of quantitative  
22 analysis, qualitative analysis, accident severity  
23 studies, etc., to which they may have referred during  
24 their underwriting evaluation. It is very likely that  
25 they -- NEIL has a very, very substantial position in

1 the U. S. nuclear industry as the main insurer, and they  
2 are already insuring this type of technology at several  
3 other nuclear power -- operated nuclear power plants  
4 already. So it is likely, but I cannot say  
5 definitively, that they referred to the engineering and  
6 technical underwriting information that they have  
7 gathered from their previous experience in evaluating  
8 these risks, the ISFSI related risks at the plants they  
9 already insure.

10 Q. To your knowledge, is NEIL providing any  
11 nuclear property insurance for any other independent  
12 ISFSI, any away from a reactor?

13 A. Right. On a stand-alone basis, I'm not aware  
14 of any.

15 Q. If you will look on page 4 of your testimony,  
16 your answer to question number 16, is it correct that  
17 you testified you expected the costs of nuclear  
18 insurance coverage would reflect the risks associated  
19 with storing spent fuel?

20 A. Yes.

21 Q. Can you explain how you can make that  
22 assessment if you don't now NEIL actually determined  
23 what was adequate?

24 A. The basic methodology for determining  
25 insurability is an assessment of loss frequency and loss

1 severity. And what makes the nuclear risk unique is  
2 that there simply is not a large database of historical  
3 nuclear-related losses, and I'm not talking about things  
4 like fires and collapse and collision, I'm talking about  
5 purely radioactive contamination-related risks.

6 And so the insurers have, because of the  
7 absence of a -- the absence of historical losses, the  
8 insurers will from time to time refer to studies that  
9 have been done, studies for accident severity, loss  
10 severity, loss potential, probabilistic risk assessment,  
11 probabilistic safety assessments, probabilistic safety  
12 assessments, etc., and that, in general, is what they  
13 do. I have not worked with NEIL or communicated with  
14 them to ask or get into the fine details of how they  
15 reached their conclusion for this particular proposal.

16 Q. Are you aware of any probabilistic risk  
17 assessments that address the risks of a stand-alone  
18 ISFSI?

19 A. No, I have not seen anything.

20 Q. Are you aware of any studies that that assess  
21 the risks of stand-alone ISFSIs?

22 A. You mean as far as a probabilistic risk  
23 assessment for accident frequency and severity?

24 Q. I understood you to say that the insurance  
25 companies or underwriters typically rely on existing

1 studies in addition to probabilistic risk assessments.

2 A. Uh-huh (affirmative).

3 Q. I guess I was referring to those types of  
4 studies.

5 A. Yes. And I'll just clarify that point a  
6 little further. What they will typically do is refer to  
7 studies that have been done for commercial reactors, and  
8 simply because there is so much more of that type of  
9 academic work has been done for the -- for reactors,  
10 that is what they will -- those are the studies to which  
11 they will generally refer. But to get back to your  
12 question about have I seen a probabilistic risk  
13 assessment for a stand-alone ISFSI, no, I have not.

14 Q. Have you or your company Marsh USA conducted  
15 any assessment of risks at the proposed PFS facility?

16 A. No. And that is not professional discipline  
17 that we -- we are not in that particular professional  
18 discipline, no.

19 Q. Have you or your company Marsh USA made an  
20 independent determination of whether the [REDACTED] in  
21 coverage is adequate for the Private Fuel Storage  
22 facility?

23 A. No.

24 Q. What is the deductible for the [REDACTED]  
25 nuclear property insurance coverage offered?

1           A.    It hasn't been anticipated yet, but we are  
2 anticipating a deductible between ██████████ for it.

3           Q.    What are you basing your expectation for this  
4 deductible?

5           A.    The scale of this program is quite a bit  
6 smaller than a program that would be in place for an  
7 operating commercial reactor. We typically see  
8 deductibles in the range of 250,000, \$500,000, even a  
9 million for operating commercial reactors, but the fact  
10 that there is such a -- the risk component is at such a  
11 smaller scale that it is likely that we -- that the  
12 deductible, it would be not in the -- in PFS's best  
13 interests to have a deductible of \$250,000 or \$500,000,  
14 and the reason is because the policy covers not just the  
15 nuclear risk, but everything else. If a piece of  
16 equipment breaks or there is wind damage to a building  
17 or something like that, we will be looking to the policy  
18 for a response to those risks as well. The smaller the  
19 deductible, obviously the better. So we do not  
20 anticipate any difficulty in securing substantially  
21 smaller deductibles for this program.

22           Q.    Is it correct that the state deposed you on  
23 May 5th, 2000?

24           A.    I can't remember if that's the exact date, but  
25 I certainly remember the deposition.

1 Q. Can you recall whether you testified or you  
2 stated in your deposition that you thought the  
3 deductible for the NEIL insurance coverage would be  
4 between a half a million and a million dollars?

5 MR. SILBERG: Excuse me. Could we have  
6 perhaps a page reference and we could let the witness  
7 see his deposition?

8 MS. NAKAHARA: I'm actually looking for it.  
9 Can I have a moment, Your Honor?

10 JUDGE BOLLWERK: (Indicating.)

11 MR. SILBERG: Connie, I'll show it to him.  
12 It's page 30, Connie.

13 MS. NAKAHARA: Thank you.

14 Thank you, Your Honor.

15 Q. (BY MS. NAKAHARA) Thanks to opposing counsel.  
16 If you'll look on page 31 of your deposition, and I  
17 stand corrected. Is it correct that you testified that  
18 a deductible would be in the range from 1 million to  
19 \$5 million?

20 A. Yes. In referring to lines 19 through 23 on  
21 page 31?

22 Q. Yes.

23 A. Yes. I did want to point out that that's in  
24 general for nuclear power production facilities. Of  
25 course, that would be a commercial power reactor having

1 the substantially higher deductible.

2 Q. And when did you make your determination that  
3 the deductible for the NEIL [REDACTED] in nuclear  
4 property insurance coverage would be around [REDACTED]  
5 [REDACTED]?

6 A. We've been assuming that to be the deductible  
7 since we first started the initial contact with the  
8 insurers. So we have never really done -- considered  
9 anything except those, you know, deductible levels that  
10 low. So it began -- so that began implicitly with our  
11 first communication with the insurers.

12 Q. What is the deductible for the [REDACTED]  
13 nuclear property insurance coverage offered by the  
14 London market?

15 A. Well, the [REDACTED] offered by the London  
16 companies will actually apply as excess of the primary.  
17 And so in order to -- in order for that coverage to pay  
18 claims, the underlying layer, the NEIL layer has to be  
19 exhausted first. So the London capacity is simply  
20 adding to or basically sitting on top of, if you can  
21 picture a block diagram with the NEIL coverage on the  
22 bottom and the London coverage above it, sitting above  
23 the NEIL coverage.

24 So it does not even come into play until the  
25 underlying NEIL coverage is exhausted. So I guess it

1 would be safe to say the deductible is [REDACTED]  
2 because that's the layer at which it would attach.

3 Q. What PFS property is covered under the  
4 proposed NEIL and the London market or combined  
5 companies' offer of nuclear property insurance? I guess  
6 let me strike that.

7 Is the ISFSI structure covered under the  
8 proposed NEIL and London market offer?

9 A. Yes. The -- all major structures, tools,  
10 properties, equipment, property on the premises is  
11 contemplated for coverage. Within the policy there are  
12 exclusions for some types of property such as bills,  
13 accounts, currency, deeds, etc. I mean, those are  
14 typically within the realm of crime insurance and  
15 they're not typically property damage policy. But the  
16 structures, buildings, facilities, etc., equipment and  
17 machinery, all of that will be covered.

18 Q. When you referred to storage structures, you  
19 mean the storage casks?

20 A. Yes.

21 Q. Will the transportation canisters -- canisters  
22 or transportation casks in transit to PFS be covered?

23 A. Yes.

24 Q. Will on-site vehicles such as the fire truck  
25 or ambulance be covered?

1           A.    No.  There will be -- separate coverage is  
2  routinely arranged for those type of vehicles.  In fact,  
3  there is an exclusion in the NEIL policy for vehicles  
4  licensed for highway use.  So there is a separate realm  
5  of insurance that is intended for those types of  
6  vehicles.

7           Q.    Will the locomotive, including the spacer car,  
8  the caboose, or the security car and the car that  
9  carries the casks while it's on site, will that be  
10 covered?

11          A.    Yes.  There is a specific grant of coverage in  
12 the NEIL policy for property in transit.  So that type  
13 of mobile equipment will be included in the coverage.

14          Q.    Would heavy haul trucks from the intermodal  
15 transfer facility be covered?

16          A.    No.  Because again, they're vehicles licensed  
17 for highway use and so they have to go elsewhere.

18          Q.    Will damage to the Skull Valley Band property  
19 itself, the land be covered?

20               MR. SILBERG:  I'm sorry, could I have that  
21 question reread?

22          Q.    (BY MS. NAKAHARA)  Will damage to the Skull  
23 Valley Band property or land be covered?

24          A.    It will be covered for the radioactive  
25 contamination and debris removal hazard.

1 MR. SILBERG: For clarification, you're  
2 talking about within the PFS site?

3 Q. (BY MS. NAKAHARA) Yes.

4 A. On the insured premises?

5 Q. Yes.

6 A. Yes, it is typical for land itself to be  
7 excluded. However, the radioactive contamination and  
8 debris removal peril is added back. So the costs to  
9 decontaminate and clean-up land would be a compensable  
10 claim under the policy.

11 Q. Will the canister and transportation casks  
12 being transported on a heavy haul truck be covered?

13 A. Yes, they will. They will be property in  
14 transit.

15 Q. And would any damage to the proposed rail spur  
16 in Skull Valley be covered?

17 A. It will be included in the defined site  
18 description. So yes, it will be covered as well.

19 Q. And would any damage to the intermodal  
20 transfer facility 1.8 miles west of Rowley Junction be  
21 covered?

22 A. Yes. If there is a remote structure, we will  
23 simply have it added to the definition of insured  
24 premises.

25 Q. Will the [REDACTED] combined coverage

1 offered by NEIL and the London companies include damages  
2 from earthquakes?

3 A. Yes. Right now there is a standard exclusion  
4 for earthquake and flood that is included in the basic  
5 policy form and it's very routine to just have those  
6 added back as additional coverage grants when the policy  
7 is placed.

8 Q. Is it correct that NEIL has agreed to an  
9 endorsement, then, to add --

10 A. No, we have not approached them with that yet  
11 and that is going to be part of the application process.  
12 I mean, we have yet to fill out and submit a formal  
13 application, but the quake and flood coverage will be  
14 included in the section where they ask if you want quake  
15 and flood coverage, we will say yes.

16 Q. And that's in consideration for the [REDACTED]  
17 [REDACTED] combined premium -- [REDACTED] premium amount for  
18 the [REDACTED] -- strike that. Let me start over.

19 A. Yes. Does the cost of the quake and flood  
20 coverage get included in that [REDACTED] premium that's  
21 being charged for the [REDACTED] in coverage?

22 Q. Yes, thank you.

23 A. It will, depending on -- insurers will do a  
24 natural hazards assessment just to assess the seismic  
25 risk and the flood risk and the charge will vary

1 anywhere from zero, if they consider the risk to be  
2 small, to a surcharge of 3 or 4 percent, at most, for if  
3 they do consider the risk to be above average.

4 Q. Is it correct that this 3 or 4 percent  
5 surcharge would be on top of the [REDACTED] premium?

6 A. Yes. It would be added to the [REDACTED]  
7 premium.

8 Q. In the standard NEIL -- strike that. Are you  
9 familiar with the standard insurance form policy of  
10 NEIL?

11 A. Yes.

12 Q. And you referenced the standard exclusion for  
13 earthquakes?

14 A. Yes.

15 Q. Does that standard exclusion also include an  
16 exclusion for, as you referenced, flood, but damage from  
17 subsidence or sinking of land or other earth movement or  
18 settlement or other movements of foundation, was that  
19 part of the consideration for the coverage provided by  
20 NEIL?

21 A. No.

22 Q. So it's correct that only earthquake --

23 A. Yes, yes, there will be. Yes.

24 Q. Is it correct that the NEIL standard form  
25 policy has a war risk exclusion?

1 A. Yes.

2 Q. Will military training or weapons testing be  
3 excluded from coverage under this war risk exclusion?

4 A. The war risk exclusion has to be triggered by  
5 hostile or war-like activities. So any sort of  
6 accidental, inadvertent damage done to the facility by  
7 some outside agency, a falling object or whatever, would  
8 not trigger the war risk exclusion.

9 MR. SILBERG: By "outside agency," just for  
10 clarification, you're referring to --

11 THE WITNESS: Objects falling from the sky.

12 THE REPORTER: You're referring to what? I  
13 didn't hear the full question.

14 MR. SILBERG: You're referring to the  
15 activities of the U.S. Armed Forces?

16 THE WITNESS: No, I'm not referring -- well,  
17 by agencies I don't mean -- I mean in insurance parlance  
18 an outside agency would be a -- some thing, some  
19 physical piece of matter that comes into the premises  
20 and does physical damage.

21 MR. NAKAHARA: May I approach with the  
22 documents?

23 JUDGE BOLLWERK: All right.

24 Q. (BY MS. NAKAHARA) This is a copy of the NEIL  
25 primary policy for April --

1 A. Yes.

2 Q. -- 1st, 2000.

3 JUDGE BOLLWERK: Have you shown it yet?

4 MS. NAKAHARA: No.

5 JUDGE BOLLWERK: Go ahead and give it to the  
6 parties.

7 Q. (BY MS. NAKAHARA) This document I just handed  
8 you is a copy of the NEIL primary policy for April 1,  
9 2000, Nuclear Electric Insurance Limited, Wilmington,  
10 Delaware, pages 1, little i starting on page 1, little  
11 i, going through page 25; is that correct?

12 A. I have it, yes.

13 Q. Are you familiar with this document?

14 A. Yes, I am.

15 Q. And if you'll turn to page 8.

16 JUDGE BOLLWERK: Should we have the document  
17 marked for identification at this point?

18 MS. NAKAHARA: I can lay a little bit more  
19 foundation.

20 JUDGE BOLLWERK: Go ahead, but I want to go.

21 Q. (BY MS. NAKAHARA) It's page 8 (B), which the  
22 exclusion section starts on page 5, Section III (B) is  
23 war exclusions. Is it correct that Section B is war  
24 exclusions?

25 A. Yes, section B is labeled War Risk Exclusion

1 as such, yes.

2 Q. And the war risk exclusion describes what's  
3 included in the war risk exclusion?

4 A. Yes. I don't -- I'm not aware of any other  
5 supplemental endorsement or exclusion that NEIL has that  
6 expands or contracts the scope of this. I think this  
7 is, as best as can be, a self-contained exclusion.

8 MS. NAKAHARA: Now I would like to have this  
9 marked as an Exhibit. I don't know which one.

10 JUDGE BOLLWERK: Exhibit 31.

11 MS. NAKAHARA: State Exhibit 31, thank you.

12 JUDGE BOLLWERK: Let the record reflect that  
13 the document that's been identified as the NEIL Primary  
14 Policy for April 1, 2000, from the Nuclear Electric  
15 Insurance Limited, Wilmington, Delaware, has been marked  
16 as State Exhibit 31.

17 [State's Exhibit 31 was  
18 marked for identification.]

19 MS. NAKAHARA: I would move to have this  
20 admitted into evidence.

21 JUDGE BOLLWERK: Any objections?

22 MR. GAUKLER: Just a moment.

23 MR. SILBERG: I think I would object to putting  
24 it into evidence because this covers a wide variety of  
25 issues that I have no idea will be subject to

1 cross-examination or relevance to this issue. Ms.  
2 Nakahara can certainly cross-examine with respect to it.  
3 And if there are particular portions of it that are  
4 significant, like the war risk exclusion language,  
5 perhaps those sections could be admitted into evidence.  
6 I'm not sure of the relevance of putting the entire  
7 document in.

8 MS. NAKAHARA: I copied the entire document  
9 for ease because I wasn't sure what I was going to  
10 submit.

11 JUDGE BOLLWERK: Well, let's do this at this  
12 point, let's let her use the document and then see. I  
13 would prefer to admit the document as a whole, and  
14 especially if we're not going to -- and the record is  
15 going to show exactly what she cross-examined on. I  
16 don't think we're going to go beyond the scope of what  
17 you talked to the witness about. Let's go back to the  
18 cross and come back to the question of admission.

19 Q. (BY MS. NAKAHARA) Could I ask you to read  
20 section Roman Numeral III (B), War Risk Exclusion,  
21 Section 1 (a)?

22 A. Yes. "Subject to paragraph 2 below, the  
23 coverage provided under this policy does not apply to  
24 property damage caused directly or indirectly by:

25 "(a) hostile or warlike action in time of

1 peace or war, including action in hindering, combating  
2 or defending against an actual, impending or expected  
3 attack by any government or sovereign power (de jure or  
4 de facto), or by any authority maintaining or using  
5 military, naval or air forces; or by military, naval or  
6 air forces; or by an agent of any such government,  
7 power, authority or forces."

8 Q. Could you read that clause to read "warlike  
9 action in time of peace," and then you go to the next  
10 comma, by any authority maintaining or using military,  
11 naval or air forces"?

12 MR. SILBERG: Excuse me. Could I get a  
13 clarification as to what you meant by could he read that  
14 as?

15 Q. (BY MS. NAKAHARA) Could the meaning of this  
16 include, could the meaning of this clause include  
17 warlike action in time of peace by any authority  
18 maintaining or using military, naval or air forces?

19 A. Oh. In other words -- well, I'm just ask a  
20 clarifying question. That is, does the -- if we go to  
21 the clause that states "any authority maintaining," does  
22 it necessarily have to be hostile or warlike action?

23 Q. Or could it be warlike action in time of  
24 peace? I mean, warlike action in time of peace by any  
25 authority maintaining or using military, naval or air

1 forces?

2 A. It did. The exclusion could be triggered by  
3 warlike action in time of peace by an authority  
4 maintaining or using military, naval or air forces.

5 Q. Thank you. Are you familiar with the location  
6 of PFS's proposed location?

7 A. Yes.

8 Q. Are you aware that this proposed location is  
9 under a military operating area?

10 A. Yes.

11 Q. Are you aware that the proposed location of  
12 the facility is approximately 18 miles east of the Utah  
13 Test and Training Range?

14 A. Yes.

15 Q. Are you aware that it is approximately 8.5  
16 miles northeast of the Dugway Proving Grounds?

17 A. I can't state the exact distance, but yes, I'm  
18 aware that the proving grounds are in proximity.

19 Q. Are you aware that various branches of the  
20 military conduct military training exercises and weapons  
21 testing over and on the Utah Testing Training  
22 Range/Dugway Proving Ground Land mass and air space?

23 A. Yes.

24 Q. Are you aware that air to air combat training,  
25 low altitude aircraft training and cruise missile

1 testing and major military exercises may be conducted in  
2 the military operating area over the proposed PFS  
3 facility?

4 A. I was not aware of the extent to which those  
5 activities take place in that air space. I'm aware of  
6 it now.

7 Q. Do you know if, in making your offer of  
8 nuclear property insurance, whether NEIL considered any  
9 of those factors?

10 A. NEIL has been provided with the information,  
11 with a site drawing that shows both of those facilities  
12 and is aware of their proximity to the site.

13 Q. Do you know if they specifically know that the  
14 PFS facility is located underneath a military operating  
15 range?

16 MR. SILBERG: Excuse me. Just a minute. I  
17 don't know that we have established that there is a  
18 military operating area or where PFS is in relation to  
19 it.

20 MS. NAKAHARA: Could I ask for a five-minute  
21 break? I have another document I would like to admit  
22 into evidence.

23 JUDGE BOLLWERK: All right.

24 MR. SILBERG: Connie, Connie. Never mind.

25 JUDGE BOLLWERK: We have a stipulation here?

1 Why don't you sit down. Mr. Silberg is about to steer  
2 the cart.

3 MS. NAKAHARA: Could you read back the last  
4 question?

5 (Pending question read.)

6 Q. (BY MS. NAKAHARA) Do you know whether NEIL is  
7 aware that the PFS facility is underneath -- located  
8 underneath a military operating range?

9 A. I am not -- I cannot say what level of  
10 awareness they have, no, I cannot say for certain.

11 Q. Given Mr. Silberg's stipulation, do you now  
12 understand that the Private Fuel Storage facility is, in  
13 fact, located under a military operating range?

14 A. Yes.

15 Q. Do you believe that if NEIL does not know that  
16 the proposed facility is underneath a military operating  
17 area, whether that would impact NEIL's offer of  
18 coverage?

19 A. I don't feel that it will have -- that they  
20 will change or modify the offer any knowing -- with this  
21 information.

22 Q. And what do you base your opinion on?

23 A. They -- they have -- during the original  
24 submission process when we provided them with the site  
25 drawing, the area drawing that shows it, they did not

1 make any -- they did not make any -- offer any concern  
2 or worry about the impact of the military facilities on  
3 the insurability of the site. And in the normal course  
4 of the underwriting process, the formal underwriting  
5 process they will perform their site inspections and  
6 will be able to determine, if they even desire to get  
7 additional information, as far as safety precautions  
8 taken by the military bases in order to insure that they  
9 maintain operations -- that they perform their  
10 operations safely and do not put the PFS at undue risk.  
11 So the insurers will certainly want to do that type of  
12 due diligence, but I do not see it as being something  
13 that will adversely affect the insurability.

14 Q. Could there be a difference of -- a different  
15 consideration for being located near a training area --  
16 strike that.

17 Could there be a different consideration if a  
18 facility is located near an area that does military  
19 training operations and weapons testing versus a  
20 facility that is located underneath air space that  
21 conducts military training and weapons testing.

22 A. Without conferring with the underwriters it's  
23 just impossible to say. I just don't know.

24 Q. Thank you.

25 MR. SILBERG: Could we go off the record for

1 just a minute?

2 JUDGE BOLLWERK: All right.

3 (A discussion was held off the record.)

4 JUDGE BOLLWERK: Why don't we go back on the  
5 record.

6 MR. TURK: Your Honor, I just want to note a  
7 concern that there's a line of questioning concerning  
8 the military training area. I would have to go back and  
9 look at the transcript to be sure the questions were  
10 correctly stated, but it's not my understanding there  
11 are any military exercises being conducted over the  
12 site. There are overflights, but there are no weapons  
13 testing being done or no military exercises being done.  
14 I would like the state to confirm that their belief is  
15 the same as mine and that if the questions are misstated  
16 they would not include that misstatement.

17 MS. NAKAHARA: No. My questions were not  
18 misstated, and this is a point of disagreement for what  
19 occurs in the military operating area addressed under  
20 Contention K. That is part of the document that I had  
21 planned to enter as an Exhibit, and unfortunately I  
22 forgot it. It's downstairs and we're retrieving it.

23 MR. TURK: In the absence of good concrete  
24 documentation I would like to note that the staff is not  
25 a party to any stipulation.

1 MR. SILBERG: Neither am I.

2 MS. NAKAHARA: And if Your Honor would give us  
3 a five-minute break we will get the document.

4 JUDGE BOLLWERK: All right. Do we need to  
5 take a five-minute break?

6 MS. NAKAHARA: Yes.

7 JUDGE BOLLWERK: Let's take a five-minute  
8 break, then.

9 (A recess was taken.)

10 JUDGE BOLLWERK: Let's come to order, please.  
11 Why don't we come to order, please. Let's see, we're  
12 back on the record now. One thing I will just mention,  
13 we probably will be breaking for lunch, but before we  
14 break for lunch I want to talk to the parties briefly  
15 about scheduling. I just want to check and see where we  
16 are, so at least we can be thinking about that. Maybe I  
17 should clarify something, at least from my perspective.  
18 There was a question about the coverage of the MLA --

19 MR. SILBERG: MOA, military operating area.

20 JUDGE BOLLWERK: Right. And there was a  
21 question and objection and then it appeared that Mr.  
22 Silberg stood up and was going to get Ms. Nakahara a  
23 document to establish that and then came back and  
24 withdrew the objection. I mentioned -- I think I used  
25 the word "stipulation," and there seems to be some

1 confusion about a stipulation. I don't think there was  
2 one, but the objection was withdrawn and the question  
3 was certainly allowed. And that's where we were and  
4 things went from there.

5 MR. SILBERG: We did check the transcript,  
6 electronics being wonderful for this purpose, on a prior  
7 question and we think that there was a statement and an  
8 answer which ought to be clarified and we can either do  
9 it now before we proceed further or later. I prefer to  
10 do it now just because I think it's relevant.

11 JUDGE BOLLWERK: Well, it's Mrs. Nakahara's  
12 examination so --

13 MR. SILBERG: Can I try to clarify it?

14 MS. NAKAHARA: I would prefer that you do it  
15 on redirect.

16 MR. TURK: I would move to strike the question  
17 and answer. Is this an appropriate time to make the  
18 motion?

19 JUDGE BOLLWERK: I think it's a little late  
20 for that. The objection wasn't made, the question was  
21 asked and the question was answered. If you see the  
22 transcript and you see there needs to be some more  
23 cross-examination you can do that.

24 MR. TURK: We'll do that.

25 MS. NAKAHARA: Thank you for the break, but

1 we've reconsidered and we're not going to introduce the  
2 document at this time.

3 JUDGE BOLLWERK: So you've identified it, but  
4 you're not willing --

5 MR. SILBERG: I think we're talking about  
6 different documents.

7 MS. NAKAHARA: The one that you allowed a  
8 break for me to go get. Could you read back my last  
9 question where we left off?

10 (Read record.)

11 MR. TURK: I object to the form of the  
12 question and I think I'll become more active now.

13 JUDGE BOLLWERK: You just heard what she read  
14 back. Let's restate the question so we can move  
15 forward.

16 Q. (BY MS. NAKAHARA) If you'll refer to your  
17 answer in your testimony on page 3 to question 11, is it  
18 correct that you testified that Marsh USA presented  
19 underwriting information to insurance markets who are in  
20 the business of providing coverage for nuclear risk?

21 A. That is correct.

22 Q. Obviously you provided the information to NEIL  
23 and the two London companies?

24 A. Yes.

25 Q. What other companies did you provide the

1 information to?

2 A. Well, for purposes of accommodating the  
3 submission, the underwriting submission for the nuclear  
4 liability insurance coverage that we provided it to  
5 American Nuclear Insurers, or ANI in West Hartford,  
6 Connecticut.

7 Q. You did not provide the information to ANI to  
8 assess whether they were willing to provide nuclear  
9 property insurance?

10 A. No. We have not approached American Nuclear  
11 Insurers with a request to offer nuclear property damage  
12 insurance.

13 Q. Is it possible that ANI would be willing to  
14 provide property insurance?

15 A. In my opinion it's not possible. And the  
16 reason why is that we expect that sometime later this  
17 year American Nuclear Insurers is likely to formally  
18 likely to withdraw from the domestic nuclear property  
19 insurance market because they have been a direct  
20 competitor of NEIL's for a number of years and NEIL has  
21 taken all but a small handful of ANI's property  
22 insurance customers and they -- it just -- the business  
23 base for them is too small to keep it going and so they  
24 will probably withdraw later this year. That is not --  
25 no formal announcement has been made and I'm making that

1 statement simply on the basis of informal discussions.

2 Q. If you'll refer to your answer to question 19  
3 on page 5, is it correct that you testified that it's  
4 possible for PFS to obtain additional nuclear property  
5 insurance coverage?

6 A. Yes. It is possible that some additional  
7 capacity could be attracted, but the statement I made  
8 there is now that we have gleaned from the marketplace  
9 what they are willing to offer at the pricing structure  
10 we have, it would in all likelihood require offers of  
11 higher premiums in order to attract any additional  
12 capacity.

13 Q. Can you explain what you mean by pricing  
14 structure you have?

15 A. Yes. There is -- for this particular case we  
16 have the primary layer, which is a [REDACTED] and the  
17 excess layer, which is the [REDACTED], and they are both  
18 on a premium per million dollars of coverage basis they  
19 are both the same. That is, the rate per million  
20 dollars of coverage offered is the same.

21 So if we went to other insurers and asked them  
22 to provide additional capacity above and beyond the --  
23 above and beyond what is being offered right now, we  
24 would probably -- it is our expectation that we would  
25 have to offer something, a price greater than the

1 existing rate in order to attract that additional  
2 capacity. And since the excess insurers will always be  
3 priced -- will always charge a premium less than or  
4 equal to the pricing below them, it would force us, we  
5 would have to -- it would force us to go back to all of  
6 the insurers and raise the entire program cost.

7 That is, we would not be able to have a  
8 certain rate apply in the bottom layers and then a  
9 higher rate apply in the excess layers. Typically, you  
10 know, it would be the other way around. And so in this  
11 case if we were only able to attract capacity above  
12 [REDACTED] by offering a higher rate, we have to go  
13 back to everybody involved who has ever committed to the  
14 program and offer -- and basically ask them to rewrite  
15 it, but at a premium increase.

16 Q. What do you think that premium increase would  
17 be?

18 A. Without approaching -- without actually  
19 approaching the carriers, it's impossible for me to say.

20 Q. So it's correct to say that you think it will  
21 be an increase, but you cannot quantify it?

22 A. No, not now. Not without conferring with the  
23 underwriters.

24 Q. Isn't it correct that you testified that the  
25 cost would be significantly higher?

1 A. Are you referring to my answer number 19?

2 Q. Actually, if you will look at your answer to  
3 20.

4 A. When I was referring to significantly  
5 higher -- the last three words of my answer,  
6 significantly higher cost, what I was referring to there  
7 would be, instead of just being able to get one small  
8 amount of capacity at the higher price, we would have to  
9 go back to everyone. And so instead of being able to  
10 stratify the pricing it would have to be -- we would  
11 have to make it uniformly high. And so significantly  
12 higher costs means you have to take the whole program  
13 and raise the price instead of just raising the price  
14 for one small component of it. I clarified my answer by  
15 saying by saying that's what I meant by significantly  
16 higher cost.

17 Q. Isn't it true if you don't know what the  
18 significant cost of coverage would be you don't know how  
19 it would impact the costs of the lower layers?

20 A. I'm sorry, can you repeat that?

21 Q. Let me see if I can ask it a little clearer.  
22 Isn't it correct that you cannot quantify the costs, the  
23 premium for an additional layer beyond -- an additional  
24 layer of coverage for nuclear property insurance beyond  
25 the [REDACTED] offered by NEIL and the London

1 companies, therefore, you don't know how it will impact  
2 the premiums offered by the London companies and NEIL?

3 A. Well, we know that if -- if a price in a top  
4 layer of coverage is at a certain amount or a rate, I  
5 should say a rate per million of coverage, and it is at  
6 a certain amount, the layers below it have to be at  
7 least the same or higher. And so the -- and so it's --  
8 I think it is correct to say that I cannot quantify, I  
9 cannot give you, for example, a percentage increase that  
10 the market would yield. We don't know yet because we  
11 haven't approached the market. So yes, it's impossible  
12 for me to say -- give you in percentage in terms of how  
13 big the increase was. The point I'm trying to make is  
14 that the whole program, the whole program price would go  
15 up if we pursued any additional coverage from one --  
16 from another insurer.

17 Q. But for example, say the increase only went up  
18 a half a percent, then each of the different layers  
19 would go up a half a percent and it may or may not be  
20 significant?

21 A. Yes, that is correct.

22 Q. Can you explain why this new layer of coverage  
23 has to be at a equal or lower percent or lower?

24 A. Industry experience. When an insurer agrees  
25 to write excess or issue a policy on an excess basis,

1 that is, above other insurers, there is a requirement to  
2 submit to the excess insurer everything underneath  
3 because what we referred to as coverage that's issued on  
4 a following form basis. In other words, the NEIL policy  
5 is the primary policy and any insurance policies in  
6 excess of it would be following form of the NEIL  
7 primary.

8 In other words, they would be written on the  
9 same terms, the same exclusions, etc., but they would be  
10 participating in a different layer. And in order to  
11 obtain a premium indication, the excess -- if an excess  
12 insurer agrees to following -- agrees to a following  
13 form policy, we -- they will have to have the underlying  
14 policy in order to know what they've agreed to.

15 And so when we present the underlying program  
16 to them -- I mean, you know, that's -- it would be  
17 improper business process for us to try to hide or in  
18 any way conceal a premium cost in an underlying layer to  
19 try to -- you know, to try to make that transaction  
20 happen. And so the excess layers will always know what  
21 is underneath them. The excess carriers will always  
22 know what's underneath them.

23 Q. So if I understand you correctly, it's  
24 basically industry practice and not a requirement?

25 A. Yes, it's an industry practice. But the

1 reason why it's an industry practice is because it's  
2 very unlikely that an excess insurer would agree to  
3 participate without having that information presented to  
4 him.

5 Q. Can you explain one more time why the  
6 underlying policies have to increase when they've  
7 already committed to a lower rate?

8 A. Yes. The reason why is because the -- when  
9 insurance companies price their coverage, the lower  
10 they -- the lower layers they are, that is, the closer  
11 they are to paying a claim, the more they will  
12 extract -- that is, the bottom layer insurers will have  
13 a higher probability of incurring losses than the excess  
14 insurers. And so since the higher -- since the primary  
15 layer insurers have a higher probability of incurring  
16 losses, they will price -- they will want to price  
17 their -- to create a premium, charge a premium that is  
18 commensurate with the increased likelihood of the losses  
19 they're going to have to pay. But as we go higher and  
20 higher in the layers, we get more and more distanced  
21 from loss potential.

22 So we are then up -- again, we get into what  
23 we refer to in the industry as catastrophic layers where  
24 any minor losses are completely contained within the  
25 underlying insurance and only a very severe loss would

1 get into the excess layers.

2 And so since the underlying insurers have a  
3 greater loss potential because they are participating in  
4 the primary layers they will extract a premium, again,  
5 that is commensurate with their increased exposure.

6 Q. So the commitment from NEIL, PFS's Exhibit F,  
7 that was offered with the understanding that any  
8 additional coverage extracted at a higher premium, they  
9 would go back and change the conditions on which the  
10 coverage was offered?

11 A. No. We did not have any -- engage in any  
12 discussions with NEIL as far as putting additional  
13 insurance capacity excess of them.

14 Q. Isn't it true that it's not any more likely  
15 that the lowest -- a lower layer or the lowest layer,  
16 for example, of the NEIL coverage, that there is a  
17 greater likelihood that they would pay a claim whether  
18 there is a higher coverage or not?

19 MR. SILBERG: Excuse me, could you restate  
20 that question?

21 Q. (BY MS. NAKAHARA) Sorry. Isn't it true that  
22 the likelihood of the lower layer, or NEIL paying on a  
23 claim, is not dependent upon whether there is a higher  
24 layer of coverage?

25 A. Yes. That is, regardless of insurance

1 capacity that is excess of NEIL, I mean, NEIL faces a  
2 frequency severity loss exposure and prices its programs  
3 accordingly. And so whether or not anyone is -- any  
4 excess insurers are above NEIL, again, they're -- the  
5 fact that there are excess insurers above NEIL does not  
6 change NEIL's overall exposure profile.

7 MS. NAKAHARA: Can I take one minute, sir?

8 JUDGE BOLLWERK: Yes.

9 Q. (BY MS. NAKAHARA) One last question. Is it  
10 correct that the [REDACTED] combined premium for the NEIL  
11 coverage and the London companies' coverage is the  
12 current premium quote?

13 A. Yes. I'd have to say that it is not a premium  
14 quote, it is a preliminary indication. And in order to  
15 refer to it as a premium quote we would have to go  
16 through the formal application process. Virtually all  
17 of the information that the insurers will need to give  
18 us a formal quote has been presented to them already,  
19 but the documents that haven't been sent in yet are the  
20 signed applications. And we will -- it is -- those will  
21 be done as we get closer and closer to a confirmed  
22 construction start date.

23 Q. Isn't it true that this preliminary indication  
24 is based on current information that the companies have?

25 A. Yes. It's on the latest information that they

1 have been presented.

2 Q. . . And what is the range of accuracy -- strike  
3 that.

4 Based on your experience, what is the range of  
5 accuracy that you have seen between preliminary  
6 indications and actual quotes?

7 A. We see extremely little deviation between  
8 preliminary indications and final quotes.

9 Q. Isn't it correct that the NEIL policy is for  
10 one year --

11 A. That's correct.

12 Q. -- coverage period? Is there any guarantee  
13 that the coverage would be renewed each year?

14 A. There is no guarantee that the coverage would  
15 be renewed each year. And in order to sustain the  
16 insurability, NEIL will -- NEIL has a staff of loss  
17 prevention engineers that it dispatches to all of its  
18 insured properties to an annual and sometimes semiannual  
19 basis and their job to evaluate the overall insurability  
20 and provide that technical information back to the  
21 underwriting staff and they determine, again determine  
22 insurability or need to change coverage, etc., on the  
23 basis of those inspections.

24 And given the fact that NEIL has maintained  
25 long-term relationships with virtually all of its

1 insurers, we would see there would be ample just  
2 dialogue between NEIL and between ourselves and PSF --  
3 or PFS regarding problems that may arise regarding  
4 insurability or change in the risk profile, etc., that  
5 may give the underwriters cause for concern.

6 Q. I think I have hopefully one last question.  
7 If you will look at State Exhibit 31, on page 21,  
8 paragraph 3 on page 31 --

9 A. I'm not sure what Exhibit it was.

10 Q. I think it was State Exhibit 31, the NEIL  
11 policy.

12 A. All right.

13 Q. Page 21.

14 A. Page 21.

15 Q. Section 3, paragraph (a), which is under the  
16 Retrospective Premium Adjustment.

17 A. Yes.

18 Q. Can you explain generally how the  
19 Retrospective premium Adjustment is implemented?

20 A. Yes. For -- there are two classes of insureds  
21 with NEIL, a member insured and a nonmember insured.  
22 And virtually all of the utilities that operate in the  
23 United States are member insureds of NEIL.

24 And as a member insured, they are entitled to  
25 a share of year-end distributions that come from NEIL,

1 you know. If they have favorable loss experience they  
2 will remit a portion of the premium proceeds back to  
3 their member companies -- or back to their member  
4 insureds, but they are also potentially liable for a  
5 retrospective premium call in the event that a series of  
6 serious losses at NEIL deplete NEIL's source of funds,  
7 sources of funds.

8           And so in the event that there are large  
9 multiple losses in a fairly short period of time  
10 experienced by NEIL and they deplete their existing  
11 financial resources, then member insureds of NEIL are  
12 liable for a retrospective premium that can be up to  
13 five times the premium paid. This paragraph is not  
14 going to be applicable. In fact we are not even  
15 planning on having PFS have member insured status. They  
16 will be insured on a nonmember basis, which means they  
17 will be completely insulated from retrospective premium  
18 calls, but they will not be entitled to get a year-end  
19 distribution if one is offered.

20           So the retrospective premium is a member's  
21 obligation to pay in additional funds in the event a  
22 series of severe losses deplete the company's financial  
23 resources. So that's why that paragraph (a) exists.  
24 But again, it's not applicable to PFS because they won't  
25 be a member insured, they will be a nonmember insured.

1 JUDGE LAM: So you're saying there will be not  
2 be any back payment nor will there be any refunds?

3 THE WITNESS: Right. The only transaction  
4 that will take place is paying the renewal premium at  
5 the beginning of the year.

6 MS. NAKAHARA: Judge Bollwerk, let me ask for  
7 a clarification. Did you admit State 31 into evidence?

8 JUDGE BOLLWERK: Not yet, it's just been  
9 identified. There's an objection pending to the whole  
10 document. I think Mr. Silberg's objection was he would  
11 prefer to have only the pages referred to in the  
12 cross-examination.

13 MR. SILBERG: Exactly. And I think this last  
14 question and answer demonstrates very graphically the  
15 dangers of putting this document in because if it's in  
16 evidence the state can pick out some sentence that  
17 occurs in the document, which as Mr. Pickerl just  
18 explained would not be relevant, and without an  
19 exploration of every term in this document I will be  
20 extremely undisposed to let it in. And I think it would  
21 be high prejudicial to us in evidence.

22 MS. NAKAHARA: I don't have any objection if  
23 we modify the document so it only includes the war risk  
24 exclusion.

25 JUDGE BOLLWERK: All right.

1 MR. TURK: I may even object to that without a  
2 little more questioning, Your Honor. Do I understand  
3 that she's only offering the war risk issues, that  
4 section?

5 THE WITNESS: Are you talking about pages 8  
6 and 9?

7 MR. TURK: It looks like the bottom of page 8  
8 and top three lines of 9. Is that what's being offered?

9 MR. SILBERG: I would also ask that we wait on  
10 ruling on this until the redirect is completed because I  
11 think at the end of that portion even the war risk  
12 exclusion policy will be shown to be irrelevant.

13 JUDGE BOLLWERK: What are you -- you now only  
14 ask for the admission of 8 and 9, is that --

15 MS. NAKAHARA: Like I indicated, I originally  
16 copied the entire document because there were various  
17 portions that we may or may not have reference. And  
18 now, yes -- actually, page 8 is fine.

19 MR. SILBERG: I don't see any problem in --  
20 the entire document has been marked and I believe that  
21 the Board could admit a portion of the document into  
22 evidence, but I would ask that we wait to even do that  
23 because I believe the questioning will indicate that the  
24 war risk provision is not very relevant.

25 MS. NAKAHARA: And, Your Honor, I would submit

1 that this is part of the evidence for you to look at and  
2 consider in conjunction with the offered testimony of  
3 the various parties.

4 JUDGE BOLLWERK: At this point I'm just going  
5 to go ahead and just admit the document into evidence.  
6 I know what the parties have argued about and what the  
7 relevant portions of it are. The Board will take that  
8 into account.

9 MR. SILBERG: The entire document?

10 JUDGE BOLLWERK: The entire document.

11 MR. SILBERG: If I could ask for  
12 reconsideration, this Board does understand that, but  
13 this record will go beyond this Board. And I am very  
14 concerned about having a record which includes really  
15 unknown and untested information. I think it would  
16 really be very prejudicial to allow the entire document  
17 into evidence. I don't have any doubt that this Board  
18 understands what the question relates to.

19 JUDGE BOLLWERK: Basically pages 8 and 9. I'm  
20 staring at it right now.

21 MR. SILBERG: But as I said, once it's in  
22 evidence, some other body that may be looking at this  
23 record may not have the same knowledge.

24 JUDGE BOLLWERK: But we have lots of documents  
25 in here that have multiple pages in here and I guess I'm

1 trying to figure out why --

2 MS. NAKAHARA: Your Honor, PFS will have the  
3 opportunity to respond to any Finding of Fact to explain  
4 how the state intends to -- or submit the document to be  
5 used in evidence.

6 MR. SILBERG: No. Once it's admitted it's  
7 admitted, and at that point it's too late.

8 MR. TURK: May I offer my view, sir?

9 JUDGE BOLLWERK: Yes.

10 MR. TURK: Which I haven't done yet. So far I  
11 have only inquired whether the offer was a section or  
12 the whole document.

13 JUDGE BOLLWERK: Go ahead.

14 MR. TURK: It has not been established in the  
15 record that this clause would apply to the activities  
16 that occur over the PFS facility. The question at this  
17 point is vague and I would hope through my own  
18 cross-examination to determine whether even if the war  
19 risk exclusion paragraph applies to the kinds of  
20 activities that may occur over the PFS facility. That's  
21 my first point. It's not relevant, that point is clear.

22 The second point, there's been no real  
23 questioning on the document whatever and to admit the  
24 document as a whole without limiting it to use -- for  
25 the purpose of testimony which was elicited would

1 require us to now sit down and read the entire document  
2 and determine whether we have any questions about the  
3 document. We have not seen the document before, it's 20  
4 pages long, it includes -- 25 pages long, it includes  
5 arcane language, terms of art which are unique to the  
6 insurance industry, which even when I read my own only  
7 automobile or property insurance policies I have  
8 difficulty understanding them without extensive  
9 examination.

10 I think it would be a mistake to admit it in  
11 for all purposes, certainly without limiting it to the  
12 purpose of the testimony that has been elicited only.  
13 So I would oppose its admission for any purpose other  
14 than that and I would further oppose it because even the  
15 war risk section is not relevant to the issues before  
16 the Board. I would ask that you at least defer your  
17 examination until the examination is completed.

18 JUDGE BOLLWERK: All right. We'll defer the  
19 ruling. What I indicated before, we will defer the  
20 ruling until after the parties have had an opportunity  
21 to do their cross-examination. Again, certainly my  
22 preference at this point is going to be to admit pages 8  
23 and 9. I will allow you to go forward with your  
24 cross-examination. I think we're talking about  
25 questions of weight here and I'll let that in.

1 MS. NAKAHARA: Your Honor, I would like to  
2 indicate where we got this document from. We asked for  
3 this document during Mr. Pickerl's discovery --  
4 deposition, excuse me, and we obtained it from Private  
5 Fuel Storage after prefiled testimony was submitted.  
6 And, therefore, the document was available through  
7 discovery to the staff as it was to us and that's the  
8 reason this is the first time possibly they have seen it  
9 and the first time we have referenced it because we did  
10 not have it available prior to Mr. Sheehan's prefiled  
11 testimony.

12 JUDGE BOLLWERK: All right. You obtained it  
13 from Private Fuel Storage --

14 MS. NAKAHARA: After prefiled testimony was  
15 submitted on May 15.

16 MR. SILBERG: During the course of Mr.  
17 Pickerl's deposition they asked for a copy of this  
18 document and we provided it.

19 MS. CHANCELLOR: Late.

20 JUDGE BOLLWERK: At this point you have  
21 finished your cross-examination, correct?

22 MS. NAKAHARA: Right.

23 JUDGE BOLLWERK: The question of the admission  
24 of this document or portions of it is still pending. It  
25 is now 1:10. Do you want to try to do your

1 cross-examination, staff, and any redirect or do you  
2 wish to take a lunch break pending Mr. Pickerl's flight?

3 MR. SILBERG: What time do you have to leave?

4 THE WITNESS: I have a flight at 4:15.

5 MR. GAUKLER: Well, we may five minutes, we  
6 may have some rebuttal testimony, it might be ten  
7 minutes.

8 JUDGE BOLLWERK: I'm assuming you can wait  
9 until 1:30, is that what we're looking at? Do you want  
10 to go forward?

11 MR. SILBERG: We're at the Board's  
12 convenience.

13 JUDGE BOLLWERK: We can make it personally.  
14 We don't want anybody fainting in their seats.

15 MR. CURRAN: Is there any reason to go ahead?

16 JUDGE BOLLWERK: I think we would like to make  
17 sure that Mr. Pickerl gets on his way. If we take an  
18 hour break we're then looking at 2:15 so we're getting  
19 real close.

20 Mr. Turk, go ahead.

21 MR. TURK: Thank you, Your Honor.

22 CROSS-EXAMINATION

23 BY MR. TURK:

24 Q. Good afternoon, Mr. Pickerl. My name is  
25 Sherwin Turk, I'm an attorney with the NRC staff in

1 Washington. I have only a few questions for you which  
2 relate to the examination that was conducted by the  
3 state earlier today.

4 Your Honor, for that reason we do not have a  
5 cross-examination plan. Prior to hearing the state's  
6 cross-examination we did not intend to conduct any of  
7 our own.

8 First, let's address this question about the  
9 warlike or hostile act exclusion. Do you have a copy of  
10 what has been marked for identification as State Exhibit  
11 31 in front of you?

12 A. Yes, I have it, the NEIL policy.

13 Q. Is there a definition in this document of a  
14 warlike act?

15 A. I do not believe there is. There is a  
16 definitions page near the front of the policy and --

17 JUDGE BOLLWERK: I believe it's on page 23.

18 Q. (BY MR. TURK) towards the end of the document  
19 there's a list of definitions.

20 A. I'm sorry. Yes, here we are in the back.

21 Q. Do you see --

22 A. No. There is no possible warlike action  
23 definition in that, on those pages, no.

24 Q. Based on your understanding of insurance  
25 policies in general and perhaps other policies that

1 include a similar risk exclusion, is it common to have a  
2 war risk exclusion in such policies?

3 A. War risk exclusion is virtually universal in  
4 property damage insurance, yes.

5 Q. Is it your understanding that if a military  
6 plane is engaged in flight over the United States  
7 somewhere, that the mere fact that it's engaged in  
8 flight constitutes a hostile or warlike action?

9 A. I would say it would not constitute a hostile  
10 or warlike action.

11 Q. Apart from suggestions made to you today in  
12 the cross-examination by the state, are you aware of any  
13 reason to believe that there would be hostile or warlike  
14 actions taking place over the PFS facility?

15 A. I have no reason to believe that there would  
16 be hostile or warlike action taking place over the  
17 facility, no.

18 Q. A question was posed to you, which the state  
19 points out I objected to too late, so because of that  
20 question I'm going to need to ask you to consider your  
21 answer that was given to it and perhaps elaborate upon  
22 it or clarify your response.

23 At one point during the questions by the  
24 state's attorneys you were asked whether you are aware  
25 that air to air combat training, low altitude aircraft

1 training and cruise missile testing and military ..  
2 exercises may be conducted in the military operating  
3 area over the proposed PFS facility. Do you remember  
4 that question?

5 A. Yes, I remember the question.

6 Q. In response, I believe your answer was you  
7 were not aware of the extent of those activities that  
8 take place over that air space, but I'm aware of it now.  
9 Do you recall that answer?

10 A. Yes.

11 Q. And in stating that "I'm aware of it now," was  
12 that simply a reference to your assumption that the  
13 state was correctly representing the facts to you?

14 A. Yes. I took it as newly presented information  
15 to me for the first time.

16 Q. Do you have any basis, apart from the state's  
17 presentation to you in that question, to believe that  
18 those asserted facts are true?

19 A. No.

20 Q. I have one other area I would like to explore  
21 with you. That is, you have made an assumption that a  
22 deductible of [REDACTED] would be included in this  
23 policy?

24 A. That's correct.

25 Q. And you said that that assumption was made

1 from the beginning of these communications with the  
2 insurers. On what basis did you make that assumption?

3 A. On the basis of the scope of operations, the  
4 size of the facility and the property, plant and  
5 equipment to be insured is on a scale that is  
6 considerably smaller than those four commercial nuclear  
7 power plants.

8 So the basis of my assumption for the -- for  
9 the deductible of [REDACTED] is simply the fact  
10 that there will not be a lot of what would be considered  
11 high value structures and equipment on the premises.  
12 And so the higher the deductible, obviously, the more  
13 risk the policyholder assumes themselves. And so we  
14 would like to get the deductible as low as we can and  
15 because the scale of operations and the size of the  
16 facility are so much smaller than a commercial nuclear  
17 power plant, we simply applied comparable reasoning in  
18 suggesting the smaller deductibles as well. It's a  
19 matter of scale.

20 Q. And that would be because nuclear power plants  
21 are more expensive facilities?

22 A. Well, I mean, certainly the insurable values  
23 at nuclear power plants are orders of magnitude greater  
24 than we are dealing with here. And the nuclear power  
25 plants do have the -- a catastrophic loss potential

1 because they are engaging in critical reactor operations  
2 and the absence of those types of risks at PFS would  
3 warrant a deductible substantially less than half a  
4 million dollars.

5 Q. But the deductible was never mentioned  
6 specifically in your communication with the insured?

7 A. No. And when we engage in the formal  
8 application process, that's when we will discuss the  
9 deductible applicable.

10 Q. Do you assume that to be reasonable --

11 A. Yes.

12 Q. -- that that deductible of [REDACTED]  
13 would be made available for the policy and for the  
14 premiums stated in your testimony?

15 A. Yes.

16 MR. TURK: I have nothing further.

17 MR. SILBERG: Could we take about a two-minute  
18 break?

19 JUDGE BOLLWERK: All right. Assume.

20 MR. SILBERG: I believe we're ready to go. If  
21 I could approach the witness with the Safety Analysis  
22 Report.

23 JUDGE BOLLWERK: We careful of the cord this  
24 time.

25 MR. SILBERG: I'm good at that.

## 1 REDIRECT EXAMINATION

2 BY MR. SILBERG:

3 Q. I'm showing the witness the Private Fuel  
4 Storage Safety Analysis Report and specifically pointing  
5 to Section 2.2.2.2 entitled "Utah Test and Training  
6 Range." Could you read the last sentence in the first  
7 paragraph on page 2.2-8?

8 A. "The site lies within the severe B MOA, two  
9 statute miles to the east of the edge of restricted air  
10 space."

11 Q. And that statement appears within the Safety  
12 Analysis Report?

13 A. Yes.

14 Q. And the Safety Analysis Report was among the  
15 documents presented to NEIL for its review?

16 A. Yes.

17 Q. And, therefore, NEIL had that information  
18 before it when it replied?

19 A. Yes.

20 Q. In our Exhibit? With respect to the  
21 endorsements in the property insureds policy that we  
22 were talking about, Exhibit 31?

23 MS. NAKAHARA: Yes.

24 Q. (BY MR. SILBERG) 31, you indicated that  
25 subsidence and sinking would not be covered. Normally

1 that earthquakes and floods would be covered, but  
2 subsidence and sinking would not be. Would radiological  
3 contamination, radiological damage caused by subsidence  
4 or sinking be covered by the policy?

5 A. Yes, it would.

6 Q. And with respect to the war risk exclusion,  
7 would the training activities that take place in the  
8 Utah Test and Training Range by the United States Air  
9 Force or the United States military and foreign military  
10 planes and missiles, would those activities, should they  
11 cause damage to the facility, trigger the exclusion in  
12 the war risk clause?

13 A. In my opinion, those activities would not  
14 trigger the war risk exclusion.

15 Q. And why is that?

16 A. The war -- in order for the war risk exclusion  
17 to be triggered, the hostile or warlike action has to be  
18 directed at the facility, that is, the insured facility  
19 has to be under attack or the facility -- and damaged by  
20 the attack or it has to be under attack and in the  
21 course of defending -- or in the course of friendly  
22 forces defending the insured property the defending  
23 forces damage the property. Those are the -- that's the  
24 scenario that would trigger the war risk exclusion, that  
25 is, the facility under attack and damaged or under

1 attack and defended, but damaged in the process of  
2 defense.

3 Q. You have also discussed the formal application  
4 process that PFS would go through to obtain the actual  
5 insurance. What is the appropriate time to submit such  
6 an application and what would happen if such an  
7 application were submitted today?

8 A. Well, the appropriate time to submit the  
9 application is typically three to four months before the  
10 commencement of the construction. The application  
11 process, if it were done today, the application process  
12 would be -- the application would be reviewed by the  
13 insurers and the insurers would dispatch their facility  
14 engineers to visit the site if they desired to interview  
15 employees or managers of PFS. They have the right, but  
16 not the obligation to do so. Again, doing review of  
17 drawings, procedures, plans, obtaining the most current  
18 and best possible technical risk profile to take back to  
19 the underwriters.

20 Q. And could one obtain a quote, as that term of  
21 art is used in the insurance industry, at this point in  
22 time?

23 A. After the inspections have been satisfactorily  
24 completed and the final underwriting review is done,  
25 then the insurers will issue formal quotes.

1 Q. So that would be after an application has been  
2 submitted?

3 A. Yes, yes.

4 Q. And is the preliminary indication that was  
5 received from NEIL the typical response that you would  
6 be expecting from insurers for the state to process?

7 A. Yes.

8 Q. With respect to the additional coverage beyond  
9 the [REDACTED], in your opinion, would it be  
10 commercially reasonable to obtain that additional  
11 capacity that you and Ms. Nakahara were discussing above  
12 the [REDACTED]?

13 A. Well, ultimately the reasonableness test, you  
14 know, has to pass muster with the policy, the  
15 prospective policyholder, but I would say that the -- it  
16 would probably -- the fact that we would be facing a  
17 potential cost increase would probably not pass the  
18 reasonableness test.

19 Q. With respect to the presence of Private Fuel  
20 Storage in the military operating area, are you familiar  
21 with other nuclear facilities, including reactors that  
22 are in military or other flight paths?

23 A. I'm not. I have no specific information for  
24 you in that regard.

25 Q. With the Board's permission what I would like

1 to do is ask a few questions which are really  
2 anticipatory rebuttal, if you will, hopefully with the  
3 aim of not having to invite Mr. Pickerl to rejoin our  
4 proceeding at a later stage after the state's testimony  
5 goes forward.

6 MS. NAKAHARA: No objection.

7 MR. SILBERG: It's a very small number of  
8 questions.

9 JUDGE BOLLWERK: All right.

10 Q. (BY MR. SILBERG) In his testimony, Dr.  
11 Sheehan cites your deposition as suggesting that you  
12 were unfamiliar with the \$70 million figure that was  
13 mentioned as a recommended amount of insurance coverage.  
14 Have you discussed with the insurers how much insurance  
15 would be appropriate for Private Fuel Storage?

16 A. No. I have not discussed with NEIL any sort  
17 of limit adequacy or assessment or anything of that  
18 nature. In my discussions with NEIL, I -- the question  
19 they posed to me was why the -- why a limit so high was  
20 being -- why were we making inquiries over such a high  
21 limit. And the basis for that is there are a number of  
22 commercial nuclear power plants that have been  
23 permanently closed.

24 And once a commercial nuclear plant is  
25 permanently closed, the licensee can apply for an

1 exemption from the NRC property rule which states that  
2 the insurance has to be a minimum of \$1.06 billion for  
3 operating a commercial nuclear reactor. And based on my  
4 experience with a number of permanently closed nuclear  
5 facilities, once they get their exemption from the NRC  
6 property rule they bring their coverage levels down to  
7 the 50, 80, \$100 million range.

8 So again, as far as trying to find the class  
9 of risk that is comparable to Private Fuel Storage it is  
10 probably reasonable to look at the general risk profile  
11 of a permanently closed nuclear reactor as something  
12 that would be -- with the fuel removed from the core,  
13 that would be comparable to as far as overall risk  
14 profile comparable to PFS.

15 So NEIL's question, NEIL was just questioning,  
16 you know, the issue of, you know, a [REDACTED] policy  
17 when they see their other reactor insureds with  
18 permanently closed facilities with purchasing  
19 substantially lower limits.

20 Q. In his testimony Dr. Sheehan also indicated  
21 that you had only provided NEIL with the Volume I  
22 application rather than the entire application and that  
23 you had limited personal familiarity with the site.  
24 First of all, are you aware of whether NEIL -- well, did  
25 you provide NEIL more than with just Volume I and, if

1 not, where did they obtain that information?

2 A. Well, NEIL obtained all of its underwriting  
3 information from PFS directly. I mean, the sheer volume  
4 of the information made it more efficient for NEIL to  
5 get it directly from PFS. I requested excerpts from  
6 those documents that would provide an overview of the  
7 risk and the site and the operations. And so the  
8 information that I provided in my communications to the  
9 insurers earlier this year was the first section of  
10 their license application along with the section  
11 regarding -- on technical specifications and the section  
12 on decommissioning.

13 Q. Now, does your personal familiarity or lack of  
14 familiarity with the site have any impact on conclusions  
15 that NEIL reached as to the amount of insurance it would  
16 be willing to provide?

17 A. Could you repeat that, please?

18 Q. Yes. Does your familiarity or lack of  
19 familiarity on a personal basis with the PFS site have  
20 any impact on the conclusions that NEIL reached with  
21 respect to how much insurance that they would be willing  
22 to provide?

23 A. No.

24 Q. And one last question. In his testimony, Dr.  
25 Sheehan characterizes your approach to NEIL as

1 "incipient inquiries," and their response, NEIL's  
2 response, as tentative and totally inadequate to  
3 ascertain the amount of coverage that is available to  
4 PFS. Will you agree with those statements and, if not,  
5 why not?

6 A. That the incipient inquiries are inadequate?

7 Q. Right. To ascertain the amount of coverage  
8 that's available.

9 A. I would disagree with that on the basis that  
10 we do have a letter from Larry Frantz, the underwriter  
11 at NEIL, that indicates a commitment of limit and a  
12 commitment of premium.

13 MR. SILBERG: I have no further questions.

14 JUDGE BOLLWERK: Redirect? I'm sorry, recross  
15 and -- boy, it's going to be -- I'm losing track.  
16 Anyway, recross.

17 RECCROSS-EXAMINATION

18 BY MS. NAKAHARA:

19 Q. Mr. Pickerl, one question about PFS's  
20 Exhibit F, the letter from Lawrence Frantz to Mr. John  
21 Parkyn. Is it correct that the letter is dated May 11,  
22 2000?

23 A. Yes.

24 Q. Is it also correct that this letter was issued  
25 after your May 5th deposition, May 5, 2000 deposition?

1 A. Yes.

2 Q. If you will look at State Exhibit 31, page 8,  
3 the War Risk Exclusion, is it correct that paragraph 1  
4 (a) reads hostile or warlike action"?

5 A. Yes.

6 Q. "In time of peace," but it doesn't necessarily  
7 need to be hostile and/or warlike action in time of  
8 peace?

9 A. A hostile or warlike action.

10 Q. And is it correct that in reading paragraph  
11 (a) there are semicolons in this paragraph?

12 A. Yes.

13 Q. And so that you would read hostile or warlike  
14 action in time of peace or war, including action in  
15 hindering, combating or defending against an actual,  
16 impending or expected attack by any government or  
17 sovereign power (de jure or de facto) semicolon,  
18 correct?

19 A. My semicolon comes after the word air forces.

20 Q. Okay. Withdraw that statement.

21 Can you guarantee that the insurer would not  
22 interpret military exercises or military weapons testing  
23 to constitute warlike action?

24 A. I cannot guarantee that. I cannot speak on  
25 the insurer's behalf. As my client's advocate, in the

1 event there were a contentious claim settlement that may  
2 bring this exclusion into question, we would vigorously  
3 advance the interests of our client to limit the scope  
4 of the insurer's interpretation of this endorsement.

5 Q. Is it correct that, as you said, you represent  
6 the interests of PFS, not the underwriter?

7 A. That is correct , yes. We are appointed by  
8 them to represent them.

9 Q. Do you have any knowledge of any nuclear  
10 property insurance coverage claims that were paid for  
11 damages for military testing or -- strike that.

12 Do you have any knowledge of nuclear property  
13 insurance coverage claims that were paid from damage  
14 from military training or weapons testing?

15 A. I'm not aware of any claim history at all  
16 either from NEIL or from American Nuclear Insurers that  
17 involves military activity.

18 Q. Is it correct that you're basing your opinion  
19 not on any historical data?

20 A. Again, I have not reviewed their entire claim  
21 history, but I am not aware of any claims that have been  
22 filed for this type of loss.

23 Q. And then do I understand you correctly that  
24 radiological contamination caused by subsidence or  
25 settling will be covered by the nuclear insurance

1 policy?

2 A. That's correct. The radioactive contamination  
3 would be considered as ensuing peril. And so even where  
4 an insurance policy does have an exclusion for  
5 something, the ensuing peril that would otherwise be  
6 covered would have coverage extended to it. So the  
7 subsidence, per se, would not be compensable in a claims  
8 settlement, but the costs to clean-up and remove the  
9 contamination would be.

10 Q. Is it correct that any nonradiological damage,  
11 for example, a damaged storage cask, would be excluded  
12 under the standard policy?

13 MR. SILBERG: Lack of basis objection.  
14 There's no indication that a subsidence can could cause  
15 damage to a storage cask.

16 Q. (BY MS. NAKAHARA) Assuming that subsidence  
17 could cause damage to a storage cask, would the standard  
18 policy exclusion for subsidence exclude payment under  
19 the damage to that storage cask?

20 A. The specific claim scenario would probably  
21 have to be developed. We would pursue coverage for the  
22 damage to the cask, again, limiting the subsidence  
23 exclusion to the restoration of the land to its pre-loss  
24 condition. We would assert that damage to a cask would  
25 constitute an ensuing peril from a fortuitous event and,

1 therefore, compensable as a claim payment.

2 Q. Even in the event that there's no radiological  
3 damage that occurred?

4 A. Well, if the -- there would still -- even if  
5 there's nonradioactive contamination type of damage, if  
6 the integrity of the cask is breached in some way and  
7 requires restoration, that would be an ensuing loss from  
8 a peril not covered. And so we would assert that the  
9 breakage or breach of the cask would be compensable  
10 under the policy.

11 Q. Would that include any damage from subsidence  
12 to any of the transfer equipment that's required in the  
13 transfer operations?

14 A. Yes. And any property, plant, equipment,  
15 etc., that is damaged by the subsidence we would submit  
16 as a compensable claim. It's the restoration of the  
17 land that subsided to its pre-loss state which we would  
18 assert would be the only noninsured portion of that  
19 event.

20 Q. Bearing with me, I would just like to confirm  
21 that includes the storage pads?

22 A. Yes.

23 MS. NAKAHARA: I have nothing else. Thank  
24 you.

25 JUDGE BOLLWERK: Any additional questions from

1 the staff or the applicant based on those questions?

2 MR. TURK: Yes.

3 JUDGE BOLLWERK: Mr. Turk, you're first.

4 MR. SILBERG: I was going to ask one follow-up  
5 questions.

6 MR. TURK: That's fine.

7 MS. NAKAHARA: Can I ask one more question?  
8 I'm sorry.

9 JUDGE BOLLWERK: Sure. You might as well get  
10 them all in now.

11 Q. (BY MS. NAKAHARA) Mr. Pickerl, Mr. Silberg  
12 had you read a line out of the Safety Analysis Report,  
13 page 2.2-8, which indicated -- that Safety Analysis  
14 Report indicated that the proposed facility would be  
15 located within the severe B military operating area; is  
16 that correct?

17 A. I read that line, yes.

18 Q. To your knowledge, do you know if the Safety  
19 Analysis Report describes any of the activities that  
20 occur in the severe B military operating area?

21 A. I'm not familiar with those contents, no.

22 Q. Therefore, is it correct that you have no  
23 knowledge whether any description in the Safety Analysis  
24 Report is correct -- strike that. Let me start over.

25 Is it correct that you have no knowledge of

1 whether any description in the Safety Analysis Report is  
2 correct?

3 A. The question is if I have no knowledge if any  
4 description in the Safety Analysis Report is correct?

5 MR. SILBERG: I'm going to object to that  
6 question, it goes beyond the scope of my redirect. The  
7 issue there is what information NEIL had in front of it,  
8 not whether that information was or was not correct.

9 MS. NAKAHARA: Whether the information is  
10 correct or not goes to whether they accurately --  
11 whether they made accurate considerations with respect  
12 to the war exclusion or their offer.

13 MR. SILBERG: No. NEIL made whatever  
14 consideration they made.

15 MS. NAKAHARA: Based on your representation.

16 MR. SILBERG: Correct. And whether that  
17 information was green, blue, right or wrong, that's the  
18 information they had in front of them and they used that  
19 information. You'll have an ample opportunity to test  
20 whether this issue is right or wrong when we get to  
21 another issue next year, but it's not relevant here.

22 JUDGE BOLLWERK: I'm going to sustain the  
23 objection. NEIL had what they had in front of them and  
24 that's the bottom line. So if you want to try to  
25 rephrase it in some way, but it --

1 MS. NAKAHARA: No, I'll stop here.

2 MR. TURK: I have very limited cross.

3 JUDGE BOLLWERK: Okay.

4 RECROSS-EXAMINATION

5 BY MR. TURK:

6 Q. Mr. Pickerl, in addition to your MBA, you're a  
7 graduate of the U. S. Naval Academy?

8 A. That's correct.

9 Q. Did you engage in any training activities or  
10 training programs while you were there?

11 A. Yes.

12 Q. Those were military training activities?

13 A. Yes.

14 Q. You also are a commissioned officer in the US  
15 Navy Nuclear Submarine Program?

16 A. I was.

17 Q. Did you engage in any military training  
18 activities as part of your duties in the Navy?

19 A. Yes.

20 Q. Is it fair to say that not all of the  
21 activities you engaged in in your training activities  
22 were hostile or warlike?

23 A. I would concur with that statement.

24 Q. And indeed, is it true that a lot of military  
25 training can be classified as not hostile or not warlike

1 or neither?

2 A. Classifying it as neither is probably the most  
3 accurate way to classify it.

4 Q. Neither one nor the other?

5 A. Yes.

6 MR. TURK: I have nothing further.

7 JUDGE BOLLWERK: Anything additional, Mr.  
8 Silberg? I see you looking through a book, a rather  
9 large book.

10 MR. SILBERG: I promise to show Mr. Pickerl  
11 only one page from the large book.

12 THE WITNESS: I'm to blame for those hungry  
13 tummies right now. I'm sorry.

14 REDIRECT EXAMINATION

15 BY MR. SILBERG:

16 Q. Again, I'm showing you the Safety Analysis  
17 Report, and this is really in response to Ms. Nakahara's  
18 question that the Safety Analysis Report does or doesn't  
19 describe the activities that go on at the Utah Test and  
20 Training Range. I'm pointing to page 2.2-2. Does it  
21 include a section on Dugway Army Proving Ground and the  
22 military training exercises and the weapons firing that  
23 takes place there?

24 A. Yes.

25 Q. And does it include a section 2.2.2 on hazards

1 from air crashes?

2 A. Yes.

3 Q. And 2.2.2.1 on Michael Army Airfield?

4 A. Yes.

5 Q. And 2.2.2.2 on activities in the Utah Test and  
6 Training Range?

7 A. Yes.

8 Q. And 2.2.2.3.1 on F-16's transiting Skull  
9 Valley?

10 A. Yes.

11 Q. And 2.2.2.2 on aircraft testing on the UTTR,  
12 the Utah Test and training Range --

13 MS. NAKAHARA: Your Honor, I would like to  
14 object. Mr. Pickerl has no knowledge. He has already  
15 admitted he has no knowledge of what's in the Safety  
16 Analysis Report and I don't see the relevance of going  
17 through this exercise of just identifying what the  
18 titles are.

19 MR. SILBERG: Because you asked him whether  
20 the information given to NEIL described the activities  
21 that go on --

22 MS. NAKAHARA: Just describing titles doesn't  
23 tell us whether it describes the activities or not.

24 MR. SILBERG: I believe he looked at it and  
25 said it did.

1 MS. NAKAHARA: He can read much faster than I  
2 can.

3 MR. SILBERG: The other way we can solve this  
4 is to stipulate that the SAR describes the applicant's  
5 views on what activities take place in these areas.  
6 Those views may not be the same as the state's and we  
7 will litigate that. But I want the record to be clear  
8 that in this case this document, which was provided to  
9 NEIL, includes the applicant's description of the  
10 military training activities that go on at the Utah Test  
11 and Training Range. If we can agree to that then we can  
12 have lunch.

13 MS. NAKAHARA: I believe the document speaks  
14 for itself.

15 MR. TURK: But it's not in evidence.

16 JUDGE BOLLWERK: It's not in evidence. My  
17 suggestion is that maybe we need to mark it and put it  
18 in for the record.

19 MS. NAKAHARA: I would agree.

20 JUDGE BOLLWERK: Do you have an objection to  
21 that, Mr. Silberg?

22 MR. SILBERG: No.

23 JUDGE BOLLWERK: Can you take care of that  
24 over the lunch period?

25 MR. SILBERG: Yes.

1 JUDGE BOLLWERK: Do you have any other  
2 questions for the witness about those portions of it?

3 MS. NAKAHARA: Yes.

4 FURTHER RECROSS-EXAMINATION

5 BY MS. NAKAHARA:

6 Q. I have one last question with respect to Mr.  
7 Turk's. Mr. Pickerl, do you recall Mr. Turk asked you  
8 about your military experience?

9 A. Yes.

10 Q. Based on your experience, what is the purpose  
11 for military training?

12 A. Well --

13 Q. In general.

14 A. I'm sorry?

15 Q. In general.

16 A. To professional -- to maximize readiness.

17 Q. And isn't it correct that you simulate real  
18 wartime actions and activities in order to prepare for  
19 military readiness?

20 A. Though are referred to as war games.

21 MR. TURK: I was going to object in that it's  
22 not clear that that kind of activity was involved in  
23 every training exercise and that hasn't been established  
24 by the state.

25 JUDGE BOLLWERK: I'm allowing the question and

1 the answer.

2 Q. (BY MS. NAKAHARA) And do you have any  
3 experience with weapons testing?

4 A. Yes, I do. It involves torpedoes, however.

5 Q. What is the purpose of testing torpedoes?

6 A. To verify their functional readiness and  
7 effectiveness.

8 Q. Isn't it true that you simulate warlike  
9 scenarios in testing the torpedoes or military weapons?

10 A. That is correct.

11 MS. NAKAHARA: I have no more questions, Your  
12 Honor.

13 JUDGE BOLLWERK: Anything further from anyone  
14 at this point?

15 JUDGE LAM: I have a very quick one for Mr.  
16 Pickerl. I think this question should be addressed to  
17 both you and the counsel for the applicant. I ask you  
18 to go to page 6 on your prefiled testimony. I see that  
19 you were asked and provided an answer to nuclear  
20 liability insurance. I don't think that is part of the  
21 Contention.

22 MR. SILBERG: The issue there is one solely of  
23 cost. We believe the cost for nuclear liability  
24 insurance is a cost element in the operating and  
25 maintenance budget for this facility and we have

1 included it for that purpose only.

2 JUDGE LAM: So just for that purpose only?

3 MR. SILBERG: Correct.

4 JUDGE LAM: Since it's in the record let me  
5 also ask you this. I see the premium rate for nuclear  
6 liability insurance is [REDACTED] higher  
7 than for property insurance. Do you know why?

8 MR. SILBERG: Historically the nuclear  
9 insurance pools, who will be the insureds for the  
10 nuclear liability program do incur fairly substantial  
11 amounts of fees and costs for litigation and defense of  
12 radiation related bodily injury claims. And in order to  
13 provide that rigorous defense and the quality of defense  
14 it is necessary to, again, ultimately reflect it in the  
15 overall premium cost.

16 JUDGE LAM: Thank you. I have no further  
17 questions.

18 JUDGE BOLLWERK: Nothing from Judge Kline. I  
19 have no questions either.

20 All right. Mr. Pickerl, if there's nothing  
21 further, thank you for your service for the Board and  
22 you are subject to recall as might be necessary.

23 THE WITNESS: Thank you, sir.

24 JUDGE BOLLWERK: It's now ten to 2:00. I  
25 suggest we take our lunch recess. I apologize to

1 everybody for taking so long. I felt it was necessary  
2 to keep this witness on time so that he can now get to  
3 the airport.

4 (The noon recess was taken at 2:00 p.m.)

5 \* \* \*

6 JUDGE BOLLWERK: I think we're ready. We  
7 have I think two administrative matters here to take  
8 care of. One is with respect to PFS -- what's been  
9 marked, at least I have it in front of me, as PFS  
10 Exhibit H. Maybe Mr. Silberg wants to say something  
11 about that.

12 [Applicant's Exhibit H was  
13 marked for identification.]

14 MR. SILBERG: Yes. I have marked and  
15 provided to the Board and the parties a document  
16 entitled PFS Exhibit H, which includes the table of  
17 contents from the SAR Chapter 2, pages 2.2-2 through  
18 2.2-23. I wish to introduce this document not for the  
19 truth of the matters set forth therein, but rather that  
20 the matters set forth therein which involve the  
21 activities out and around the Utah Test and Training  
22 Range and Dugway Army Proving Ground were included in  
23 the PFS safety analysis report which was made available  
24 to NEIL as part of their review.

25 MS. NAKAHARA: Is this the latest revision?

1 MS. CHANCELLOR: Were those revisions given  
2 to NEIL?

3 MS. NAKAHARA: Are these revisions that were  
4 given to NEIL?

5 MR. SILBERG: It doesn't matter.

6 MS. NAKAHARA: But if NEIL hasn't seen this,  
7 then it doesn't even represent --

8 MR. SILBERG: Everything except the margin  
9 bars they would have regardless, because that's the  
10 original -- there are margin bars, some of those may  
11 postdate, but I don't know if they postdate what NEIL  
12 had. But in substance it still describes the  
13 activities --

14 MS. NAKAHARA: There's a considerable amount  
15 of margin bars, though.

16 MR. SILBERG: If you'd like, you can try to  
17 reconstruct what it looked like when it was provided to  
18 them. I don't know that.

19 MS. NAKAHARA: I mean, if you're representing  
20 what this is what NEIL had and what they base their  
21 review on --

22 MR. GAUKLER: Most of these would have been  
23 done last fall. May have been some small changes this  
24 year, but most of this revision was done in November of  
25 last year.

1 MS. NAKAHARA: I'm only guessing, but did he  
2 do some revisions in January?

3 MR. GAUKLER: We did a revision in January,  
4 and basically what we did, my recollection is we  
5 changed the date on the report, the report date to PFS  
6 February 2nd.

7 JUDGE BOLLWERK: Do you recollect what date  
8 Revision 9 was submitted?

9 MR. GAUKLER: I believe revision 9 was  
10 submitted -- it was submitted I believe in roughly  
11 February, end of February. Revision 9 basically only  
12 changed the date of the report, which was the reference  
13 report PFS February 2000. It also changed some of the  
14 numbers in the calculation, I believe.

15 MS. NAKAHARA: Why are there all these margin  
16 bars?

17 MR. GAUKLER: We can double check to make  
18 sure what copy NEIL got.

19 JUDGE BOLLWERK: Why don't we then at this  
20 point hold off, and I'm not even going to identify this  
21 for the record. Let's make sure we get the right  
22 document that we identify and admit. I don't want to  
23 have to put it in and withdraw it back and forth if we  
24 can avoid that. So my understanding is PFS is now  
25 going to go back and get whatever version of the

1 document was submitted at the time to NEIL, and that's  
2 what we will then move forward with. Is that  
3 acceptable to you all?

4 MS. NAKAHARA: Yes. May I ask for a  
5 clarification on State Exhibit 31?

6 JUDGE BOLLWERK: Well, that's the next thing  
7 we have to deal with. On No. 31, I guess the question  
8 is, there's been a document marked for identification,  
9 which some pages we've referred to and a number of  
10 pages we have not. There's probably been, of this  
11 document, maybe -- since Mr. Turk referred to the table  
12 of contents, that's about another three pages, plus we  
13 had I think two on the war risk and I think one on  
14 the --

15 MR. SILBERG: Retrospective premium.

16 JUDGE BOLLWERK: Right. So we're talking  
17 about seven pages out of a 25-page document. And  
18 originally you made a proffer that you basically wanted  
19 admission of the pages I guess that were referred to.  
20 Are you still --

21 MS. NAKAHARA: I still stand by that.

22 JUDGE BOLLWERK: Stand by that, all right. My  
23 only concern as a record matter is, how am I going to  
24 indicate when we stamp this that this whole thing has  
25 not been admitted? That's something I'll need to think

1 about. Because normally you see these things and the  
2 stamp means the whole document's been admitted, not part  
3 of it.

4 MR. SILBERG: My preference would be to mark  
5 in the margin those sections, the table of contents and  
6 then those specific sections, not the entire pages, but  
7 those sections that were referred to. And as far as  
8 what notation the Board can use to say admitted, I  
9 would just say entire document marked for exhibit, you  
10 know, pages such-and-such and section such-and-such  
11 admitted into evidence.

12 JUDGE BOLLWERK: Do you have an objection to  
13 that?

14 MS. NAKAHARA: No objection.

15 JUDGE BOLLWERK: Maybe what I'll ask you to  
16 do so we make sure that you mark what you want in there  
17 is to go ahead and take a copy -- go ahead and mark it  
18 the way you want it, then let's look at it, make sure  
19 everybody's okay with it. Then we'll then take those  
20 markings and put it into the -- the copies in for  
21 identification and admit the exhibit. Does that sound  
22 reasonable to everyone?

23 MS. NAKAHARA: You mean, would you like it  
24 highlighted or asterisked?

25 JUDGE BOLLWERK: I think frankly we're just

1 talking about the bars on the side margin. That would  
2 be acceptable to me.

3 MR. TURK: I would ask, for a little perhaps  
4 better clarity, just strike out what's not being  
5 offered, and then there's no confusion later.

6 JUDGE BOLLWERK: We're going to end up  
7 striking about three quarters of the document that way.  
8 I think if we mark what we're admitting and put  
9 "admitted" on the side of it, it will be clear. I  
10 don't want to turn this into a -- somebody looks at it  
11 and wonders, what in the world is going on. They're  
12 going to wonder what in the world is going on anyway,  
13 but that's a different problem.

14 All right. So if you would do that, just  
15 mark the sections that have been referred to. I think  
16 I just mentioned what those were -- 8, 9, I think --  
17 have I got the right page numbers?

18 MR. SILBERG: The war risk exclusion.

19 JUDGE BOLLWERK: Right. And I guess the  
20 table of contents, I mean, the definitions, I'm sorry,  
21 that Mr. Turk referred to. Was there anything in the  
22 table of contents that anyone wants marked, cares  
23 about? In the table of contents. All it is is a  
24 listing of the pages, but --

25 MR. SILBERG: No.

1 JUDGE BOLLWERK: All right. If you could do  
2 those and then show it to everyone, make sure we're all  
3 right with it, and then we'll go ahead and mark the  
4 exhibit copies.

5 JUDGE BOLLWERK: All right, I think we're  
6 then ready. Anything else any of the parties have?  
7 Let's move forward to I guess Mr. Parkyn on  
8 construction? Is that the next --

9 MR. SILBERG: Yes. I would call John Parkyn  
10 to the witness stand, ask that he be sworn in.

11 JUDGE BOLLWERK: We're glad to see you,  
12 Mr. Parkyn. Go ahead and sit down.

13 THE WITNESS: All right.

14 JOHN PARKYN  
15 was called as a witness on behalf of the Applicant and,  
16 having been first duly sworn, was examined and  
17 testified as follows:

18 JUDGE BOLLWERK: All right, sir, you're sworn  
19 in and under oath, and we're glad to have you here. I  
20 understand there was a little health concern, and you  
21 look fine now.

22 MR. SILBERG: If I could approach the  
23 witness.

24 JUDGE BOLLWERK: Yes.

25 DIRECT EXAMINATION

1 BY MR. SILBERG:

2 Q. Mr. Parkyn, I'm showing you a document  
3 dated -- titled Testimony of John Parkyn on PFSF  
4 Construction Costs, Contention Utah E/Confederated  
5 Tribes F, Revised per Board order of June 12, 2000  
6 dated June 15, 2000, 17-page document. Was this  
7 document prepared by you or under your direct  
8 supervision and control?

9 A. It was.

10 Q. And is it true and correct to the best of  
11 your knowledge and belief?

12 A. It is.

13 Q. Are there any corrections that you need to  
14 make in that document?

15 A. None that I'm aware of.

16 Q. I'm showing you a document entitled  
17 Attachment 1. Is this your resume, statement of  
18 qualifications? .

19 A. It is.

20 Q. And is it true and correct to the best of  
21 your knowledge and belief?

22 A. It is.

23 Q. And you adopt it as the statement of your  
24 qualifications in this proceeding?

25 A. I do.

1           Q.    Finally, I'm showing you a document titled  
2 PFS Exhibit E, PFS, C-o-n-s-t for construction,  
3 estimate. In the left-hand corner it says PFS Storage  
4 Facility/Railroad Preliminary Construction Cost  
5 Estimate, 5/13/2000. Was this document prepared by you  
6 or under your direct supervision and control?

7           A.    It was.

8           Q.    And is it true and correct to the best of  
9 your knowledge and belief?

10          A.    It is.

11               MR. SILBERG: Chairman, I'm giving the  
12 documents that have just been identified by Mr. Parkyn  
13 to the court reporter. I'd ask that his testimony and  
14 his statement of qualifications be incorporated into  
15 the transcript at this point as if read, admitted into  
16 evidence as Mr. Parkyn's testimony, and that the  
17 document identified as PFS Exhibit E be identified, be  
18 admitted into evidence.

19               JUDGE BOLLWERK: All right. The testimony,  
20 Mr. Parkyn's testimony as it's been described and also  
21 the attachment, any objections to the admission of that  
22 as his testimony?

23               MS. CHANCELLOR: No objection.

24               MS. MARCO: No objection.

25               JUDGE BOLLWERK: All right. Then that

1 Q. Finally, I'm showing you a document titled  
2 PFS Exhibit E, PFS, C-o-n-s-t for construction,  
3 estimate. In the left-hand corner it says PFS Storage  
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6 or under your direct supervision and control?

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9 your knowledge and belief?

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12 documents that have just been identified by Mr. Parkyn  
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19 JUDGE BOLLWERK: All right. The testimony,  
20 Mr. Parkyn's testimony as it's been described and also  
21 the attachment, any objections to the admission of that  
22 as his testimony?

23 MS. CHANCELLOR: No objection.

24 MS. MARCO: No objection.

25 JUDGE BOLLWERK: All right. Then that

1 testimony should be bound into the record as if read  
2 and admitted.

3 . [Whereupon, the direct written  
4 testimony of Mr. Parkyn was  
5 inserted in the record.]

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June 15, 2000

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
Before the Atomic Safety and Licensing Board

In the Matter of )  
 )  
PRIVATE FUEL STORAGE L.L.C. ) Docket No. 72-22  
 )  
(Private Fuel Storage Facility) ) ASLBP No. 97-732-02-ISFSI

TESTIMONY OF JOHN PARKYN ON PFSF CONSTRUCTION COSTS  
CONTENTION UTAH E/CONFEDERATED TRIBES F  
(Revised per Board Order of June 12, 2000)

I. BACKGROUND

Q1. Please state your full name.

A1. John D. Parkyn

Q2. By whom are you employed and what is your position?

A2. I am Vice President of Genoa Fuel Tech, a subsidiary of Dairyland Power Cooperative and am Chairman of the Board of Managers of Private Fuel Storage, L.L.C. In addition, I am Chairman and CEO of the Great Salt Lake and Southern Railroad and a Director of River Bank in La Crosse, Wisconsin.

Q3. Please summarize your educational and professional qualifications.

A3. I received a bachelor's degree in nuclear engineering from the University of Wisconsin. I am a licensed Professional Engineer in Wisconsin and a licensed Professional Nuclear Engineer in California. I have served as a member of the National Planning Committee for the American Nuclear Society and I am a past Chairman of the Wisconsin Division of the American Nuclear Society. I also served on the Evaluation and Review Group for the Institute of Nuclear Power

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Operations. I have written many papers on nuclear energy and its implementation.

I have worked with nuclear power for over 30 years. From 1967 to 1969 I served as a certified reactor operator with the U.S. Army at White Sands Missile Range. From 1972 to 1974, I was an operations engineer, fuel shipping supervisor, and a licensed Senior Reactor Operator at Wisconsin Electric Power Company's Point Beach Nuclear Plant, where my responsibilities included budgeting and costing of changes to the plant. In 1974, I moved to Dairyland Power Cooperative, where I worked as an Operations Engineer, Shift Technical Advisor, Fuel Shipping Supervisor, Shift Supervisor, and Senior Reactor Operator at the La Crosse Boiling Water Reactor. From 1979 to 1982, I was the Assistant Superintendent at La Crosse where I ran plant operations and oversaw site security. In 1982, I became Plant Manager and Acting Chief Executive Officer for Nuclear Power. I was responsible for oversight of plant operations and all of the budgeting and staffing for the site and managed the plant as it shut down and commenced decommissioning. In 1994, I shifted my focus to the disposition of spent nuclear fuel and moved to work on the Mescalero Fuel Storage project. I stayed with the project when it became Private Fuel Storage.

I am currently serving on the Governor's Commission on Passenger Rail in Wisconsin. I have also served as a member of the Wisconsin Legislative Study Committee on Railroads. I have served in a number of positions of responsibility in my community. I have been Chairman of the Board of the Bank of Stoddard, Wisconsin and the Bank of Ferryville, Wisconsin. I have served as the Treasurer of the School District of La Crosse, Wisconsin and the Vice Chairman of the Finance Committee of Vernon County, Wisconsin.

- Q4. What is your experience with the construction of large industrial facilities like the Private Fuel Storage Facility (PFSF) and the estimation of the costs of constructing such facilities?

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A4. In my positions at Dairyland Power and Wisconsin Electric, I was involved with the construction of the La Crosse Boiling Water Reactor and work on the construction and back-fitting of Point Beach Nuclear Plants, Units 1 and 2. I was also involved with construction of additions and a replacement facility for Air Reduction Corporation – Ohio Medical Products, Madison, Wisconsin (which was involved in the preparation and sale of gases and equipment for use in medical facilities). In each case, I was involved in the estimation of construction costs for various parts of the facilities. In the case of Point Beach and part of the Air Reduction Facility, I was also involved in the oversight of the final construction and acceptance testing.

Q5. What is your experience with independent spent fuel storage installations (ISFSIs)?

A5. The La Crosse Boiling Water Reactor commenced decommissioning under my direction as plant superintendent from 1982 to 1994. During that process (and continuing to the present, the plant had spent fuel on site; many of the activities connected with the spent fuel at La Crosse are germane to spent fuel storage facilities like the PFSF. My responsibilities at La Crosse pertinent to the construction costs of the PFSF included costing out of staffing levels, preparation of technical specifications, license amendments, NRC approvals, etc.

Q6. What is your experience with and base of knowledge regarding ISFSI construction costs?

A6. At the La Crosse Boiling Water Reactor I worked the activities connected with spent fuel management and I prepared cost estimates and projections for the Private Fuel Storage Facility.

Q7. Are you familiar with the design and construction plans for the PFSF?

A7. Yes

Q8. What is the basis of your familiarity with the PFSF?

A8. I am responsible for the operation of the company which will construct the facility. I have personally made many of the cost estimates. I have been involved in determining many of the costing factors that are involved with the facility.

Q9. What is the purpose of your testimony?

A9. The purpose of this testimony is to respond to the allegations in Basis 6 of Contention Utah E/Confederated Tribes F that, “[t]he Applicant has failed to show that it has the necessary funds to cover the estimated costs of construction . . . of the proposed ISFSI because its cost estimates are vague, generalized, and understated” both by describing the process by which the detailed construction cost estimates for which I was responsible were developed and by describing those estimates and demonstrating their reasonableness.

II. CONSTRUCTION Costs of the PFSF

A. Total Construction Costs

Q10. How will construction of the PFSF be staged?

A10. The construction of the PFSF will take place in three Phases. As part of Phase I, the structures, systems and components necessary for the operation of the minimum planned initial capacity storage facility, i.e. [REDACTED] metric tons of uranium (MTU), will be constructed. Specifically, Phase I will include the storage facility for [REDACTED] pads, associated site work, yard lighting, perimeter fence and security system, and the canister transfer building. Also in the first phase is the Balance of Facility, which includes the water supply and waste disposal cost, site access road, Security and Health Physics Building, Administration Building and the Operations and Maintenance Building. All costs associated with the Low Railroad Line are also included in Phase I (assuming that the railroad as the primary transportation option is selected, as is PFS’s current intent) In addition, railroad transportation equipment and other equipment will be purchased as part of Phase I. Phase I includes all construction necessary for the PFSF to become operational and to store the minimum initial planned capacity of spent fuel.

Phase II of the construction will include all sitework, concrete work, lighting and perimeter fence necessary to add [REDACTED] additional storage pads, which will increase the facility’s capacity to 20,000 MTU, as well as additional railroad transportation equipment.

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Phase III of the construction will include all sitework, concrete work, lighting and perimeter fence necessary to add the final [REDACTED] storage pads. After construction of Phase III is completed, the PFSF will have reached its maximum storage capacity of 40,000 MTU.

**Q11.** What is the estimate of the construction costs of the PFSF for Phase I of construction ?

**A11.** The cost estimate for Phase I construction is approximately [REDACTED] (in 4<sup>th</sup> quarter 1999 dollars), set forth in PFS Exhibit E. That includes estimates performed by Stone and Webster Engineering Corp. [REDACTED], summarized in Exhibit E (and discussed in the testimony of Joseph F. Gase and George L. Takacs, IV), and estimates for which I have been responsible [REDACTED].

**Q12.** What is the estimate of the construction costs of the PFSF for Phase II of construction, which includes all construction necessary for the PFSF to store 20,000 MTU?

**A12.** The cost estimate for Phase II construction is approximately [REDACTED] (in 4<sup>th</sup> quarter 1999 dollars). That includes estimates performed by Stone and Webster [REDACTED] (and discussed in the testimony of Messrs. Gase and Takacs) and estimates for which I have been responsible [REDACTED].

**Q13.** What is the estimate of the construction costs of the PFSF for Phase III of construction, which includes all construction necessary for the PFSF to store 40,000 MTU?

**A13.** The construction estimate for Phase III is approximately [REDACTED] (in 4<sup>th</sup> quarter 1999 dollars), made up solely of construction costs. The Phase III estimate was performed by Stone and Webster (and is discussed in the testimony of Messrs. Gase and Takacs).

**Q14.** Do PFS's construction cost estimates differ from the construction cost estimates in the PFS Business Plan?

**A14.** The construction cost estimates discussed in this testimony and that of Messrs. Gase and Takacs represent the current best estimate of PFS's construction costs.

**Q15.** What costs make up the construction costs for the PFSF?

**A15.** The construction costs for the PFSF are divided into the following categories:

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- Site Work
- Yard Electrical Work
- Security Equipment
- Canister Transfer Building
- Concrete Storage Pads
- Water and Sanitary
- Roads and Parking
- Security and Health Physics Building
- Administration Building
- Operations and Maintenance Building
- Low Railroad
- Rail and Other Transportation Equipment
- Other Loading System Equipment (Transfer Casks and Miscellaneous Equipment)
- Dry Transfer System
- Cask Hauler
- 50 Ton Mobile Crane
- Visitor's Center
- Other Capital Expenses
- Contingencies

**Q16.** Regarding which of these costs will you be testifying?

**A16.** I will be testifying regarding the following costs.

- Rail and Other Transportation Equipment
- Other Loading System Equipment (Transfer Casks and Miscellaneous Equipment)
- Dry Transfer System
- Cask Hauler
- Visitor's Center
- Other Capital Expenses

**Q17.** What process and what information did you use to estimate the construction costs for the PFSF?

**A17.** I specifically relied upon information generally available in the rail industry, bids and other information from vendors, and actual and projected costs from other facilities.

**B.** Rail and Other Transportation Equipment Costs

**Q18.** What costs make up the rail and other transportation equipment costs?

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A18. For Phase I of PFSF construction, the rail and other transportation equipment budgeted costs consist of: two mainline locomotives; six spent fuel cask rail cars; six spent fuel transportation casks; and six cask impact limiter sets; one security rail car; two buffer rail cars, and one shortline locomotive.

For Phase II of PFSF construction, the rail and other transportation equipment budgeted costs consist of, in addition to the equipment to be procured in Phase I: two mainline locomotives; six spent fuel cask rail cars, spent fuel transportation casks, and cask impact limiter sets; one security rail car; and two buffer rail cars.

Q19. What is the total cost estimate for rail equipment?

A19. The total cost is [REDACTED] for Phase I (excluding contingency) and [REDACTED] for Phase II (excluding contingency).

Q20. What is the basis for the cost estimate for the mainline locomotives?

A20. The estimated cost of the mainline locomotives [REDACTED] is based on the purchase and refurbishment of a unit currently in service. This data is available throughout the rail industry.

Q21. What is included in the cost estimate in Exhibit E for [REDACTED] each for the cask car/trans car/impact limiter?

A21. The Exhibit E estimate for [REDACTED] includes the spent fuel cask railcar, the spent fuel transportation cask, and a set of cask impact limiters.

Q22. What is the basis for the cost estimate for the spent fuel cask railcar?

A22. The spent fuel cask rail car cost estimates [REDACTED] are based on bids to supply the cars by two vendors who are currently involved in the manufacture of significant amounts of rail equipment.

Q23. What is the basis for the cost estimate for the spent fuel transportation cask and cask impact limiters?

A23. Spent fuel transportation casks are estimated to cost [REDACTED] each and cask impact limiters are estimated at [REDACTED] to [REDACTED] per set. The cask cost

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estimate is based on the actual fabrication cost of a prototype. The limiter estimate is based on the relative simplicity of the design and construction of the limiter.

**Q24.** What is the basis for the cost estimate for the security railcar?

**A24.** The estimated security railcar cost [REDACTED] is based on the purchase and refurbishment of a used passenger car with the required security equipment (e.g., communications gear, global positioning system, computer, and security upgrades).

**Q25.** What is the basis for the cost estimate for the buffer railcar?

**A25.** The buffer rail car estimate [REDACTED] is similarly based on the purchase and refurbishment of a used railroad transport car.

**Q26.** What is the basis for the estimate for the shortline locomotive?

**A26.** The estimate for the shortline locomotive [REDACTED] is based on the purchase and refurbishment of a unit currently in service. This data is available throughout the rail industry.

**Q27.** Given your knowledge and professional experience, how does the cost of rail equipment compare with the cost of rail equipment used in similar operations?

**A27.** On the basis of my experience as a member of the Governor's Commission on Passenger Rail, and a former member of the Wisconsin Legislative Study Committee on Railroads, the cost of the rail equipment is comparable to the cost of rail equipment in general service when special features are considered for spent fuel cars (such as heavier load and additional monitoring of railcar performance) and for security cars (such as location and communications equipment).

**C.** Other Loading System Equipment Costs

**Q28.** What costs make up the other loading system equipment costs for the PFSF?

**A28.** The costs for the other loading system equipment comprise the costs of spent fuel transfer casks and miscellaneous equipment.

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Q29. What is the total cost estimate for the other loading system equipment for the PFSF?

A29. [REDACTED]

1. Spent Fuel Transfer Casks

Q30. What are the spent fuel transfer casks?

A30. The spent fuel transfer cask is used to transfer canisters containing spent fuel assemblies. PFS will buy two transfer casks. One cask will be used at the PFSF in the Canister Transfer Building to move spent fuel canisters between transportation casks and storage casks. The second cask will be sent to customer reactor sites to enable customers to load spent fuel canisters into transportation casks in preparation for shipment to the PFSF.

Q31. What is the total cost estimate for the spent fuel transfer casks?

A31. [REDACTED]

Q32. What is the basis for the cost estimate for the spent fuel transfer casks?

A32. The basis for the spent fuel transfer cask cost estimate was a comparison to the estimated cost of the fuel shipping cask which is estimated to cost [REDACTED]. The transfer cask is a comparatively simple shielding cask (compared to the shipping cask) which is used to transfer the loaded fuel canister from the shipping cask to the storage cask which is used on site.

2. Miscellaneous Equipment

Q33. What costs make up the miscellaneous equipment costs?

A33. Miscellaneous equipment costs are the costs of welding, cask inerting, and other equipment that PFS customers will use to load spent fuel canisters and spent fuel transportation casks in preparation for the shipment of spent fuel to the PFSF. PFS will procure one set of such equipment that will be sent to customer reactor sites as necessary.

Q34. What is the total cost estimate for miscellaneous site canister transfer equipment?

A34. [REDACTED]

Q35. What is the basis for the cost estimate for miscellaneous site canister transfer equipment?

A35. The basis for the estimate is bids for such equipment that have been received by Southern Nuclear.

D. Cask Hauler or Transporter

Q36. What is the spent fuel cask hauler?

A36. The spent fuel cask hauler (also called the cask transporter) is the spent fuel storage cask transportation vehicle that will be used at the PFSF to move spent fuel storage casks between the Canister Transfer Building and the concrete spent fuel storage pads. The cask hauler will also bring empty spent fuel storage casks to the Canister Transfer Building to be loaded with spent fuel canisters. PFS will buy two units.

Q37. What is the total cost estimate for the spent fuel cask hauler?

A37. PFS anticipates that the cask hauler will cost between [REDACTED] each.

Q38. What is the basis for the cost estimate for the spent fuel cask hauler?

A38. The basis for the upper bound of the current cost estimate is the actual delivered cost for a cask hauler, very similar to the ones to be used by PFS, at Southern Nuclear's Hatch plant of [REDACTED]. Nevertheless, Southern Nuclear is currently estimating that cask haulers delivered to Southern in the future will cost [REDACTED] each.

E. Dry Transfer System Costs

Q39. What costs make up the dry transfer system costs for the PFSF?

A39. The dry transfer system cost is the cost of the dry transfer cask. The dry transfer system is used for loading spent fuel canisters a few assemblies at a time, for reactor sites at which the fuel canisters cannot be loaded in the reactor spent fuel pool. PFS will acquire two dry transfer systems, one to be sent to customer

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reactor sites as necessary for the routine loading of spent fuel canisters and another to remain at the PFSF to be sent to customer reactor sites on a contingency basis.

Q40. What is the total cost estimate for the dry transfer systems cost for the PFSF?

A40. [REDACTED] The cost estimate for each of the two dry transfer casks that will be procured is [REDACTED]

Q41. What is the basis for the estimate of the dry transfer system costs for the PFSF?

A41. The cost of the dry transfer cask is based on scaling down the cost of the transportation cask to a smaller at-reactor-site-use-only cask intended to move one to four assemblies at a time. The cost was then increased to cover the additional design and regulatory costs for the system.

F. Visitor's Center

Q42. What costs make up the costs of the PFS Visitor's Center?

A42. The Visitor's Center will be a public educational center located on the Skull Valley Band of Goshute Reservation but away from the site that provides information on nuclear energy, explains interim spent fuel storage, and presents information on the site. It will also contain space for the Tribal Heritage Center to inform the public about the history of the Skull Valley Band of Goshutes, their culture, and their language.

Q43. What is the total cost estimate for the PFS Visitor's Center?

A43. [REDACTED]

Q44. What is the basis for the estimate of the cost of the PFS Visitor's Center?

A44. The cost estimate for the Visitor's Center is based on an estimate of [REDACTED] per square foot for a 3,300 square foot facility. The cost per square foot estimate was provided by Stone and Webster. The facility size and layout was chosen by the Skull Valley Band. The cost above the Stone and Webster building estimate

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( [REDACTED] ) allows [REDACTED] for furnishing the facility and [REDACTED] for utilities.

G. Other Capital Expenses

Q45. What are the other capital expenses PFS will incur during construction of the PFSF?

A45. PFS will purchase an ambulance for use on-site at a cost of approximately [REDACTED]. PFS will also purchase one fire truck for use at the PFSF at a cost of approximately [REDACTED]. The cost estimate is based on my discussion with the La Crosse, Wisconsin fire department.

H. Contingencies

Q46. What costs would constitute contingencies for the construction of the PFSF?

A46. Contingencies during the construction of PFS would include any unanticipated construction costs or costs caused by delays during construction.

Q47. What is the basis for the estimate of contingencies for the PFSF?

A47. The basis for the contingencies estimate is approximately [REDACTED] of the total construction cost for the PFSF, which as a total comes to [REDACTED] for Phase I construction.

Q48. Given your knowledge and professional experience, how does the contingencies estimate for the PFSF compare with the contingencies estimates for similar projects?

A48. The contingency estimate for PFS is comparable to contingency estimates for general construction projects in which most of the work is pre-bid. The majority of the expenditures for PFSF construction are totally conventional activities. Only the transportation casks, concrete storage pads, and the Canister Transfer Building, and the foundations for the pads and the building, in any way reflect additional requirements related to the nuclear application to which the facility will be put.

**III. Associated Administrative and Operational Costs**

**Q49.** What other costs, if any, will PFS incur during construction but before the PFSF becomes operational?

**A49.** The other costs PFS will incur during construction but before operations consist of the following items:

- Personnel and Engineering Costs
- Host Payments
- Administrative Costs
- Licensing Fees

**Q50.** What will the sum of those costs be over the construction period for the PFSF?

**A50.** The sum of those costs will be approximately [REDACTED] over the construction period for the PFSF.

**A.** Personnel and Engineering Costs

**Q51.** Are there any personnel or engineering costs that will be incurred by PFS during the construction of the PFSF that are not reflected in the construction cost estimates provided above?

**A51.** The cost for up to three staff persons may be costs incurred by PFS that are not directly reflected in the construction cost estimates.

**Q52.** What costs make up such personnel and engineering costs?

**A52.** Wages and fringe benefit allowance.

**Q53.** What is the total estimate of such personnel and engineering costs for the PFSF?

**A53.** [REDACTED] for three full time equivalents for the construction period.

**Q54.** What is the basis for the estimate of the personnel costs that will be incurred by PFS during the construction of the PFSF that are not reflected in the construction cost estimates provided above for the PFSF?

**A54.** The basis is the cost of hiring people to perform various functions during construction, mostly general oversight and training of PFSF staff. Persons performing such functions will be available for a total of [REDACTED] per person per year, including fringe benefits. These estimates are comparable to the costs for

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persons with middle-level experience in startup projects that would be incurred on projects similar to the PFSF project.

B. Host Payments

Q55. What individual payments will make up the host payments for the PFSF during its approximately two-year construction period?

A55. Host payments will be made to the Skull Valley Band of Goshutes and to Tooele County.

Q56. What will the total host payments be for the PFSF during its construction?

A56. [REDACTED] over the construction period.

C. Administrative Costs

Q57. What will be the administrative costs PFS will incur during construction?

A57. Approximately [REDACTED].

Q58. What costs will make up PFS's administrative costs during construction?

A58. PFS's administrative costs during construction will be primarily made up of the following: training costs; recruiting and relocations; legal fees; and non-nuclear insurance.

Q59. What is the basis for PFS's estimate of its administrative costs?

A59. PFS's administrative costs during construction will be dominated by training costs, legal fees, and insurance premiums. The training of the PFS staff will require each staff member to be on-site for a total of, on average, three months (albeit the entire staff will not necessarily be on-site for the same three months). Thus PFS will incur one quarter of a staff-year in training costs during construction. Since PFS's labor costs during operation will be [REDACTED] per year, the staff training cost incurred during construction would be approximately [REDACTED]. PFS will also pay [REDACTED] per year for general liability insurance and [REDACTED] per year for directors' and officers' liability insurance during the roughly

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two-year construction period for the PFSF (approximately [REDACTED] over the construction period).

D. Licensing Fees

Q60. What will be the licensing fees for PFS during the construction of the PFSF?

A60. Licensing fees during construction will include various licensing fees, particularly fees to the Nuclear Regulatory Commission for the 10 CFR Part 72 license once issued, etc.

Q61. What will be the total of such licensing fees?

A61. [REDACTED] for the construction period. NRC ISFSI fees are \$206,000 per year (which NRC has proposed to raise to \$209,000 for FY 2000) plus specific costs incurred by the NRC related to the facility (e.g., costs for inspections).

IV. Escalation

Q62. In what year dollars are the above cost estimates for the PFSF provided?

A62. Fourth quarter 1999.

Q63. How will this cost estimate be escalated to the point in time at which construction commences?

A63. Escalation between now and the beginning of construction should be small. First, PFS will take bids on the construction of the PFSF and construction will begin shortly after the facility is licensed in the fall of 2001. At that point, as discussed below, PFS's costs for the items that are subject to bids will be fixed. Thus, the only escalation of those costs that could occur would occur between the fourth quarter of 1999 and the fall of 2001. Because this period is roughly only two years, any escalation in the period would be small. Similarly, those items that will not be subject to bids would be subject to the same minor escalation between the fourth quarter of 1999 and fall 2001, when construction begins (escalation during construction of the costs of items that are not subject to bids is discussed below).

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Nevertheless, PFS has planned for potential cost escalation between the fourth quarter of 1999 and the time when construction of the PFSF begins. To account for this potential escalation, PFS will increase its customer storage fees for the PFSF by a construction inflation factor. Accordingly, the portion of the storage fee attributed to facility construction, which for PFS members is now set at [REDACTED] U to be stored, in 1997 dollars, will be adjusted by the construction inflation factor applied from 1997 to the fall of 2001 to ensure that the construction costs of the PFSF will be covered.

Q64. How will PFS derive the construction inflation factor?

A64. The PFS construction inflation factor will be a composite of individual cost escalation factors applied to various categories of items for which PFS will incur expenses during the construction of the PFSF. Individual escalation factors and the categories of items to which they would apply would include the following:

[REDACTED]	[REDACTED]

These factors are compiled annually (and some factors more frequently) by the Department of Labor, Bureau of Labor Statistics. The factors reflect changes in the cost of obtaining the products or services (labor) that make up each category of PFS's construction costs. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

The construction inflation factor will be a dollar weighted composite of the escalation factors used. The weight given to each escalation factor will depend on the cost PFS estimates that it will incur during construction in the cost category to which each escalation factor applies.

**Q65.** How will PFS's construction cost estimates be escalated during the time of facility construction?

**A65.** PFS will take bids on the construction of the PFSF soon after the license is issued. PFS's actual costs will be based on the bids. Therefore, PFS will not experience any escalation of cost during construction for those parts of PFSF construction that are subject to bids.

For other construction expenses that will be incurred by PFS, but will not be subject to bids, escalation during construction is likewise expected to be small, in that the period of construction will be approximately two years. The construction inflation factor discussed above should be a reasonable projection of the increase in cost that might occur during construction for items not subject to bids. Further, for certain of these costs, such as NRC licensing fees, the Service Agreements will provide for escalation at actual costs or direct pass through.

**V. Conclusion**

**Q66.** In conclusion, are the foregoing estimates for the construction costs of the PFSF reasonable?

**A66.** The estimates for construction costs of the PFSF for which I was responsible are reasonable and accurate.

**ATTACHMENT 1**

P.O. Box C4010  
La Crosse, Wisconsin 54602-4010

**John Parkyn**

<b>Position</b>	<b>Chairman of the Board, Private Fuel Storage, LLC</b>	
<b>Education</b>	University of Wisconsin • Bachelor of Science in Nuclear Engineering	Madison, WI
	United States Army • Certified Reactor Operator	White Sands Missile Range, NM
<b>Nuclear Facility Licenses</b>	Wisconsin Electric Power Company • NRC Licensed Senior Reactor Operator Point Beach Units 1 & 2	Milwaukee, WI
	Dairyland Power Cooperative • NRC Licensed Senior Reactor Operator La Crosse Boiling Water Reactor	La Crosse, WI
<b>Professional Licenses</b>	• Professional Engineer - Wisconsin • Professional Nuclear Engineer - California	
<b>Publications</b>	Author of numerous papers on nuclear energy and its implementation	
<b>Professional Associations</b>	• Past Member, National Planning Committee, American Nuclear Society  • Past Chairman, Wisconsin Division, American Nuclear Society	
<b>Positions Held in Nuclear Facilities</b>	• Relief Shift Supervisor • Shift Technical Advisor • Relief Operator • Operations Engineer • Technical Assistant • Assistant Superintendent • Plant Manager • Acting Chief Executive Officer for Nuclear Power (CNO)	

1           The exhibit marked PFS E, the record should  
2 reflect that it's been marked and identified as  
3 indicated by Mr. Silberg.

4                           [Applicant's Exhibit E was marked  
5                           for identification.]

6           Any objection to the admission of PFS  
7 Exhibit E?

8           MS. CHANCELLOR: No objection.

9           MS. MARCO: No objection.

10           JUDGE BOLLWERK: All right. Then PFS Exhibit  
11 E is received into evidence.

12                           [Applicant's Exhibit E was  
13                           received into the record.]

14           And at this point I believe Mr. Parkyn is  
15 available for cross-examination.

16                           CROSS-EXAMINATION

17 BY MS. CHANCELLOR:

18           Q. Good afternoon, Mr. Parkyn. I'm glad to see  
19 you again.

20           A. Thanks.

21           Q. I have a preliminary question which is not on  
22 my cross-examination plan. Do you have a copy of your  
23 testimony in front of you?

24           A. No, I don't. Now I do.

25           Q. All right. On question 5 on page 3, the

1 question is, "What is your experience with independent  
2 spent fuel storage installations?" And your answer to  
3 that question refers to the LaCrosse boiling water  
4 reactor. Isn't it fuel that the spent fuel of LaCrosse  
5 is still in wet storage?

6 A. That's correct.

7 Q. And isn't it true that in your -- do you  
8 recall having your deposition taken by the State of  
9 Utah?

10 A. Correct.

11 Q. Isn't it true that during your deposition you  
12 stated that you had been involved with some spent fuel  
13 shipments from Point Beach to Morris?

14 A. That's correct.

15 Q. And isn't it true that those shipments  
16 occurred sometime in the 70's?

17 A. Whenever I was there. I don't remember the  
18 precise years.

19 Q. And isn't it true that those spent fuel  
20 shipments included two assemblies, two spent fuel  
21 assemblies?

22 A. I guess I'm not clear. Are you asking me how  
23 many fuel assemblies Point Beach shipped to Morris,  
24 Illinois?

25 Q. In a cask that was shipped from Point Beach

1 to Morris, how many fuel assemblies were there in each  
2 cask?

3 A. There was one or two. I don't remember  
4 exactly which.

5 Q. And how many assemblies will be in the  
6 canisters at Private Fuel Storage?

7 A. Twenty-four for pressurized water reactor,  
8 sixty-eight for the boiling water reactor.

9 Q. Thank you. It's my understanding from your  
10 testimony that the PFS facility will be constructed in  
11 three phases. Is that correct?

12 A. Up to three phases, right.

13 Q. What will be the volume of Phase I?

14 A. Depending upon subscription sign-ups, right  
15 now it's intended that it will be 10,000 metric tons of  
16 uranium.

17 Q. And could it be more than 10,000 metric tons  
18 of uranium?

19 A. It would depend on prescription sign-ups to  
20 use the facility. But right now that's what we  
21 contemplate as our Phase I, 10,000 metric tons of  
22 uranium.

23 Q. And at what stage would you make a definitive  
24 determination of the volume capacity of phase one?

25 A. Well, I feel that we have. We intend to have

1 sign-ups and subscription in the next year to year and  
2 a half. So certainly if there's any indication, be a  
3 reason to do it any differently, we'd have to make the  
4 decision on that. But right now our plan is to build  
5 in the three phases identified in responses to this  
6 proceeding 10, 10, and 20, phases one, two, and three.

7 Q. So what would cause a change to the present  
8 allocation of volume in each phase?

9 A. Well, none that I can think of at this point.

10 Q. You mentioned that Phase I was contemplated  
11 at 10,000 MTU based on subscription agreements. Do you  
12 mean subscription agreements or service agreements?

13 A. Service agreements.

14 Q. Service agreements. The construction cost  
15 estimates today, based on Phase I, 10,000; Phase II,  
16 10,000; and phase 3, 20,000 MTU's, how will those cost  
17 estimates change based on whether you have a different  
18 fuel volume?

19 A. I don't contemplate that they will. They  
20 cover the case all the way out to a full facility.

21 Q. So, for example, if Phase I were to be 12,000  
22 MTU, what would you need to do to the cost estimates to  
23 bring that to a 12,000-MTU facility?

24 A. Well, as can be seen from the staging in the  
25 phasing, basically, it's the addition of space, storage

1 slabs within the facility and the electronics to  
2 monitor.

3 Q. When do you anticipate that stage -- Phase I  
4 would commence, the construction of Phase I?

5 A. Late in the fall of 2001.

6 Q. What is your understanding of when you would  
7 anticipate obtaining a license from the Nuclear  
8 Regulatory Commission for a Part 72 license?

9 A. Late in the fall of 2001.

10 Q. Is it correct to say, then, that you would be  
11 ready to commence construction almost immediately after  
12 you retain an NRC Part 72 license?

13 A. That's correct.

14 Q. Approximately how long will Phase I take to  
15 complete?

16 MR. SILBERG: Excuse me. You're referring to  
17 construction of Phase I?

18 MS. CHANCELLOR: Construction.

19 A. Approximately 24 months with start-up  
20 testing.

21 Q. And if you commence -- what would occur  
22 initially at the beginning of construction of Phase I?  
23 Site work? Ground breaking?

24 A. Without looking it up, I'm not 100 percent  
25 sure. Certain structures would start first and, as you

1 point out, obviously an access road would be an early  
2 item.

3 Q. If you're beginning construction in say  
4 November of 2001, will the winter constructions -- will  
5 the winter season in Utah affect your construction  
6 schedule? If you know.

7 A. I don't know anticipate that it will, no.

8 Q. Have you been involved with large  
9 construction projects in severe winter conditions?

10 A. Yes, I was.

11 Q. And whereabouts was that?

12 A. Madison, Wisconsin.

13 Q. And what type of construction project?

14 A. It was a large manufacturing building  
15 addition.

16 Q. About what size?

17 A. Oh, I couldn't remember. It's been so many  
18 years.

19 Q. How long ago was that?

20 A. Ooh. That would probably in the range of  
21 1970.

22 Q. If you began construction of a 10,000-MTU  
23 facility and you were to get service contracts for say  
24 2,000 more MTU's, would you anticipate that you would  
25 increase the storage volume of the facility being

1 constructed?

2 MR. SILBERG: Excuse me. Can we have a  
3 clarification? When would these additional 2,000-MTU  
4 commitments take place?

5 MS. CHANCELLOR: As I've stated, during the  
6 construction period of Phase I.

7 A. So maybe I should restate your question.  
8 Basically you're saying if we initially have signed  
9 service agreements for 10,000 metric tons of uranium,  
10 we physically begin construction and all of a sudden  
11 2,000 more come in?

12 Q. Right.

13 A. It's most likely that would end up at Phase  
14 II.

15 Q. The reason for my question, just so you'll  
16 know, Mr. Parkyn, is that we feel like there's this  
17 moving target of volume, and we're trying to determine  
18 what those construction costs are.

19 If you anticipate constructing, beginning  
20 constructing the facility as soon as you get your NRC  
21 license, when do you anticipate that you will be going  
22 up for bids on Phase I construction?

23 A. In the three to six months before.

24 Q. Three to six months before commencement of  
25 construction?

1           A.    That's correct.  Most bids have a time limit  
2 from contractors to how long they're valid.

3           Q.    I'm sorry.  Could you repeat that?  I didn't  
4 quite hear.

5           A.    Bids usually have a time limit from  
6 contractors as to how long they're valid.  You have to  
7 time when you go out for them with a reasonable  
8 certainty that they'll still be valid at the time that  
9 you start construction.

10          Q.    And three to six months is a reasonable  
11 period to anticipate that the bids would still hold?

12          A.    Yes.

13          Q.    Sorry.  I lost my train of thought.  Now I  
14 got it back.  Would you have finished engineering  
15 design drawings to allow you to go out to bids in -- it  
16 would be, say, June of -- oh, could be even as early as  
17 April of 2001.  If you're going out for bids three to  
18 six months prior to the fall of 2001, isn't it true  
19 that you would be taking drawings out for bid in  
20 approximately April, May 2001?

21          A.    Well, there is a proposed additional decision  
22 on the license the Board has put out.  So when I --  
23 that happens to occur during the fall, the season; so I  
24 wasn't enveloping the entire fall.  I was relating to  
25 that.  I believe that occurs during the month of

1 November. So we're really talking practically late May  
2 would be six months before that.

3 Q. Okay. And are you familiar with license  
4 condition 17-1 which this hearing is basically geared  
5 towards?

6 A. I don't have it in front of me, if that's  
7 what you're asking. I'm familiar with it.

8 Q. Are you in general familiar with that license  
9 condition?

10 A. Yes, I am.

11 Q. Let me read the license condition to you.  
12 "Construction of the facility shall not commence before  
13 funding (equity revenue and debt) is fully committed  
14 that is adequate to construct a facility with the  
15 initial capacity as specified by PFS to the NRC [REDACTED]  
16 [REDACTED]." That's the first part of the license condition.  
17 But it goes on to talk about additional capacity.

18 Is it your understanding that this license  
19 condition only requires you to make a showing that you  
20 have committed funding for the project and that you  
21 don't necessarily have to begin construction  
22 immediate -- shortly after making that financial  
23 showing?

24 A. Excuse me. Could I have the question  
25 re-read, please.

1 (The record was read.)

2 A. The license condition doesn't reference how  
3 quickly we begin construction.

4 Q. Is it PFS's plan to begin construction  
5 shortly after it makes its financial showing to the NRC  
6 staff?

7 A. It's our intention to begin construction  
8 immediately after getting the license.

9 Q. Isn't it true that PFS first has to make a  
10 financial showing to the staff before it can begin  
11 construction?

12 A. That's correct.

13 Q. So my question then is, would you anticipate  
14 that you would begin construction very shortly after  
15 making that showing to the NRC, financial showing to  
16 the NRC staff?

17 A. Once we had the license.

18 Q. Yes, once you have the license.

19 A. There is a restriction that you have read how  
20 soon we show that commitment. So if we show the  
21 commitment as met at the time prior to getting the  
22 license, obviously we couldn't start construction until  
23 we had the license. License authorizes construction.

24 Q. One more time. Your reading of license  
25 condition 17 is that there's no requirement to begin

1 construction immediately after the financial showing to  
2 the NRC staff; is that correct?

3 A. That's correct if you're assuming we've not  
4 yet received the license.

5 Q. Assume that you have received a license and  
6 license condition 17 stays as is, as is presently  
7 constituted. Is it PFS's -- does PFS commit that it  
8 will commence construction shortly or immediately after  
9 making the financial showing that it has the funds to  
10 construct a minimum size capacity facility?

11 A. That's certainly our intent.

12 Q. It's your intent, but you don't commit to  
13 that; is that correct?

14 MR. SILBERG: Objection. I think, A, asked  
15 and answered; and B, there may be other approvals that  
16 have not yet been issued. I think it would be  
17 speculative at this point to go further.

18 JUDGE BOLLWERK: Do you want to respond to  
19 the objection?

20 MS. CHANCELLOR: For purposes of trying to  
21 establish what the construction costs are, it's  
22 important to know exactly when construction's going to  
23 take place. We have a -- the state has a problem with  
24 the way in which the license condition 17-1 is written,  
25 because it doesn't tie the showing to when construction

1 will commence. And so I'm trying to ascertain from Mr.  
2 Parkyn rather than PFS's intent whether they will  
3 actually commit to constructing, and I will add a  
4 proviso, provided no other regulatory approvals are  
5 required, that they will commence construction  
6 immediately after or shortly after they made that  
7 financial showing to the staff. And if they don't,  
8 then there's another line of questioning as to, you  
9 know, how you're going to allocate -- how long those  
10 bids are going to be good for and the actual estimated  
11 cost of construction.

12 MR. SILBERG: And I assume you're also  
13 committing that the state won't attempt to stop us from  
14 starting construction?

15 MS. CHANCELLOR: I believe that's beyond the  
16 scope of this contention, Mr. Silberg.

17 MR. SILBERG: You are asking us to commit to  
18 start construction if the governor lays down across the  
19 road, as he has literally pledged to do. You know, I  
20 think there may be other impediments that the state  
21 will see. If you want to commit that you won't -- that  
22 the state will not attempt to bar us from starting  
23 construction as soon as we can, I suspect we'd make  
24 that commitment.

25 MS. CHANCELLOR: The state is merely trying

1 to understand the timing of when -- of trying to tie  
2 the purpose of this hearing, of going through this  
3 exercise of establishing the construction costs, the  
4 estimated construction costs. It's a fruitless  
5 exercise if we don't tie those construction costs to  
6 the license condition. And the license condition is  
7 such that it doesn't relate to the construction costs.  
8 So we feel like we're in this endless circle, and we're  
9 just trying to get off the wheel.

10 JUDGE BOLLWERK: I'm going to allow the  
11 witness to answer the question, and he may or may not,  
12 depending on how he wants to answer it, wish to qualify  
13 the term "commitment." So answer the question.

14 A. Yes. It's our intention or commitment or  
15 however you want to phrase it to begin construction as  
16 soon as it's lawfully allowed. And from your line of  
17 questioning, I'm taking that to mean meeting showing of  
18 a license condition and having the license. I do not  
19 include anything that the state or others might do to  
20 delay it.

21 Q. Thank you, Mr. Parkyn.

22 In your testimony in answer to question 55 --  
23 55 relates to host payments. And the total cost of  
24 host payments is -- over a two-year period, is  
25 ascertained over a two-year construction period; is

1 that correct?

2 A. That's correct.

3 Q. And that total cost is [REDACTED]?

4 A. That's correct.

5 Q. And if construction were to be delayed beyond  
6 the two-year period, the host payments would increase.

7 Is that correct?

8 MR. SILBERG: Excuse me. Clarification. Do  
9 you mean construction would take longer than two years  
10 or would start later? I think you meant it would take  
11 longer than two years total duration.

12 MS. CHANCELLOR: Yes, that the duration of  
13 construction would be longer than two years, that's  
14 correct.

15 MR. SILBERG: Thank you.

16 THE WITNESS: Would you repeat the question,  
17 please?

18 MS. CHANCELLOR: I think I have the answer.

19 MR. SILBERG: If I can rephrase it. The  
20 question was, what would happen to host payments if  
21 construction took more than two years, or took three  
22 years with that two years.

23 Q. (BY MS. CHANCELLOR) They would increase,  
24 correct?

25 A. That's correct.

1 Q. By a proportionate amount?

2 A. Precisely.

3 Q. And the host payments in general during the  
4 construction phase are paid on a quarterly basis. Is  
5 that correct?

6 A. There's some monthly and some quarterly.

7 Q. But none of them are paid annually?

8 A. None are paid annually.

9 Q. Okay. Now, Mr. Parkyn, in your testimony I  
10 noticed that PFS intends to use a lot of refurbished  
11 equipment.

12 A. You'll have to refresh my memory on that one.

13 Q. Okay. For example, in your testimony you  
14 state that the mainline locomotive will be refurbished  
15 equipment.

16 A. Used equipment, yes.

17 Q. Used equipment.

18 A. Uh-huh.

19 Q. And you state in answer to question 20 that  
20 the estimated costs of a mainline locomotive is

21 [REDACTED]?

22 A. Yes.

23 Q. And you say that the data is -- I guess are  
24 available throughout the rail industry of a cost of  
25 such a mainline locomotive?

1 A. That's correct.

2 Q. If one were not a rail buff, where would one  
3 go to find this data in the rail industry?

4 A. There are various vendors. They're listed in  
5 a compendium that's put out quarterly by the rail  
6 industry, and you would call one of those listed under  
7 used equipment sales.

8 Q. And that's all these vendors do, is that  
9 correct, is sell used rail equipment?

10 A. I can't relate to that totally. I know  
11 that's a major business of theirs. I don't know if  
12 that's their sole business.

13 Q. And did you call any of these vendors with  
14 respect to a used mainline locomotive?

15 A. Yes, I did.

16 Q. And what is the age of the used mainline  
17 locomotive that you anticipate that you would purchase?

18 A. I didn't ask the age.

19 Q. What is the horsepower of the used mainline  
20 locomotive that you anticipate purchasing?

21 A. I asked for a 3,500 to 4,000 horsepower  
22 locomotive.

23 Q. What sort of guarantee or warranty comes with  
24 a used mainline locomotive?

25 A. I can't answer that question.

1 Q. What type of -- do you have an opinion of  
2 a -- of the reliability of a used mainline locomotive  
3 versus a new mainline locomotive?

4 A. Yes. The used locomotives have a very high  
5 reliability rate. Most of them have been outserviced  
6 because of the fact that the new ones coming out now  
7 are much more fuel efficient.

8 MR. SILBERG: Excuse me. You used the term  
9 "outserviced," is that correct?

10 THE WITNESS: Basically when railroads buy  
11 new equipment they'll put out their older, smaller  
12 locomotives, less fuel efficient locomotives to these  
13 leasing sales agencies. Sometimes they call it  
14 outservicing.

15 Q. [REDACTED]

16 [REDACTED]

17 [REDACTED]

18 A. [REDACTED]

19 [REDACTED]

20 Q. Isn't it correct that the base payment, base  
21 5 payment includes a [REDACTED] allowance for transportation  
22 costs?

23 MR. SILBERG: Excuse me. Do you mean base --  
24 phase 3? Is it base 5?

25 MS. CHANCELLOR: No, it's a base payment

1 under the service agreement.

2 MR. SILBERG: No, I think you said base 5. Or  
3 did I mishear?

4 MS. CHANCELLOR: I can't remember if it's  
5 four --

6 THE WITNESS: It's three.

7 Q. (BY MS. CHANCELLOR) It's three. Thank you.  
8 I used to have this straight.

9 A. Yes, it has an allowance of [REDACTED] towards  
10 transportation costs in the overages paid by the  
11 shipper.

12 Q. And that total base 3 payment is what? [REDACTED]  
13 [REDACTED] dollars?

14 A. The total of payment 3?

15 Q. Yes.

16 A. [REDACTED] dollars in 1997 dollars.

17 Q. And how did you compute the [REDACTED] allowance  
18 for a customer weighted, if you will, for  
19 transportation? .

20 A. [REDACTED]  
21 [REDACTED]  
22 [REDACTED]  
23 [REDACTED]

24 Q. And would these payments be based on the more  
25 fuel efficient trains?

1           A.    No.  There are more fuel efficient trains  
2   that  acquire much more capital, so you'd have to pay  
3   it one way or the other.

4           Q.    Is it correct to say, then, Mr. Parkyn, that  
5   in general the transportation costs to most -- for most  
6   reactor sites to the Private Fuel Storage facility will  
7   be greater than [REDACTED]?

8           A.    I don't believe that's a true statement.  That  
9   estimate was centered in the Midwest, so there was some  
10  closer, some further.

11          Q.    Do you have built into your cost estimates --  
12  let me strike that.  How old would these mainline  
13  locomotives be?  Did I ask you that?

14          A.    You asked me that, and I don't know the  
15  specific year.

16          Q.    Can you give a range of years that this used  
17  equipment would be?

18          A.    I'd be hard pressed to say precisely without  
19  asking the vendors specifically.

20          Q.    Are we talking about five years or fifty  
21  years?  I mean, could you give us that sort of ballpark  
22  estimate?

23          A.    I'm sure you're not talking about fifty years  
24  because dieselization began in the United States  
25  basically in the mid 1950's.  The 3,500 to 4,000

1 horsepower units probably couldn't be over half that  
2 distance so far as age, but I don't know the first year  
3 they manufactured them.

4 Q. Would you anticipate that the trains that the  
5 railroad company would take out of service would be  
6 their oldest equipment?

7 MR. SILBERG: Excuse me. You said taking  
8 trains out of service?

9 MS. CHANCELLOR: Well, Mr. Parkyn was talking  
10 about outservice.

11 THE WITNESS: Locomotives.

12 Q. (BY MS. CHANCELLOR) Oh, locomotives. What  
13 did I say?

14 A. You said trains. You meant locomotive.

15 Q. Isn't a locomotive a train?

16 A. No, it's just the first part of what might be

17 --

18 Q. Okay. I stand corrected.

19 A. No, they're not automatically the oldest  
20 units.

21 Q. Another piece of refurbished equipment you  
22 referred to is the security car.

23 A. That's correct.

24 Q. And that's going to be a refurbished  
25 passenger car; is that correct?

1 A. Yes.

2 Q. How much wear and tear would you expect of a  
3 passenger car?

4 A. I suppose it depends on which one you buy.

5 Q. Do you know yet which one you'll buy?

6 A. The individual one, no.

7 Q. Let me go back to the mainline locomotive for  
8 just a moment. In answer to question 20 you state,  
9 "The estimated cost of the mainline locomotives,  
10 [REDACTED] each, is based on the purchase and

11 refurbishment of a unit currently in service." And  
12 when I asked you about refurbishment, you stated that  
13 it was a used locomotive. Does the purchase price of  
14 [REDACTED] -- I'm not used to these  
15 zeros -- [REDACTED] each refer to the purchase -- relate  
16 to the purchase of a used locomotive?

17 A. It includes the purchase price.

18 Q. How much of that -- how much of that purchase  
19 price goes to refurbishment?

20 A. Depends on whether it needs any  
21 refurbishment. The ones I got the price of a couple of  
22 weeks ago did not need it. They cost [REDACTED] each  
23 outright.

24 Q. So who is it that determines whether the used  
25 mainline locomotive needs to be refurbished?

1           A.    Well, when you go out and buy them, it  
2 depends on where they are in their spectrum between  
3 maintenances.  The ones that were available last week  
4 did not require refurbishing.  They're already sold by  
5 a railroad, already being operated by someone else, so  
6 it was giving them up on a lease back to the vendor.

7           Q.    What does refurbishment mean when you talk  
8 about a mainline locomotive?

9           A.    It depends on what it needs, where it is at  
10 the point at which it's initially sold.  There's a  
11 certain requirement for overhaul.  They're usually  
12 based on miles.

13          Q.    So is it like a car, every so often you need  
14 to do certain maintenance work and replacement?

15          A.    It's not unlike that.  It's a little more  
16 complex than that.

17          Q.    So if you purchased a used locomotive that  
18 didn't need to be refurbished, isn't it true that it  
19 would need to be refurbished at some stage during the  
20 life of the 20-year initial license term?

21          A.    Depending on where it was mileage wise.  As  
22 you run them, they have periodic servicings at  
23 different frequencies, which is part of your railroad  
24 operating costs.

25          Q.    Is that included in PFS's cost estimates?

1

A.

2

3

Q.

4

5

A.

6

7

8

Q.

9

10

11

A.

12

13

14

15

Q. The mainline locomotive will be used to pull spent nuclear fuel casks, correct?

16

17

A. Correct.

18

Q. And is it my understanding that PFS at the moment does not commit to servicing these mainline locomotives?

20

21

A. No, I don't think that's a correct understanding.

22

23

Q.

24

25

1 A. [REDACTED]  
2 [REDACTED]  
3 [REDACTED]  
4 [REDACTED]  
5 [REDACTED]

6 Q. [REDACTED]  
7 [REDACTED]  
8 [REDACTED]

9 A. [REDACTED]  
10 [REDACTED]

11 Q. PFS is going to own the mainline locomotives;  
12 is that correct?

13 A. Correct.

14 Q. [REDACTED]  
15 [REDACTED]  
16 [REDACTED]  
17 [REDACTED]

18 A. [REDACTED]  
19 [REDACTED]

20 Q. Okay, thank you. Okay, we'll move back to  
21 the security car. Again, another used piece of  
22 equipment, correct?

23 A. That's correct.

24 Q. And this used piece of equipment will be --  
25 in response to question No. 24 in your testimony, you

1 mentioned that it's [REDACTED] and that it will have the  
2 required security equipment. Is that correct?

3 A. That's correct.

4 Q. And how did you ascertain that cost of  
5 [REDACTED]?

6 A. Well, looking at availability of used  
7 passenger cars that are even Amtrak certified, which  
8 all private cars usually that are hauled are, you can  
9 get them in the change of a hundred to two hundred  
10 thousand dollars. And then we looked at the addition  
11 of some required communications gear for security,  
12 certainly reporting on a computer that reads a GPS.  
13 That's how we did it.

14 JUDGE BOLLWERK: Does GPS mean global  
15 positioning satellite?

16 THE WITNESS: Global positioning system,  
17 which relates to the satellite system. So you're  
18 usually pegged within a tenth of a mile or less.

19 Q. And did you ascertain the cost of the  
20 security equipment yourself?

21 A. Are you talking about the GPS?

22 Q. No, I'm talking about all the security  
23 equipment, and in parentheses it's got "e.g.,  
24 communications gear, global positioning system,  
25 computer and security upgrades." Did you ascertain the

1 cost of the security equipment needed to equip the used  
2 or refurbished passenger car so that it would be  
3 upgraded to a security car?

4 A. Those specific -- yes.

5 Q. And how did you ascertain those costs?

6 A. We just called vendors. They're, remember,  
7 commercially available gear. Communications are radio  
8 systems that are used pretty widely. And of course to  
9 be usable they have to be common bands anyway. GPS  
10 systems are also very commonly available now as are the  
11 PC's or personal computers that you can tie them into  
12 that drive your precise positions.

13 Q. And how much of the cost is allocated to  
14 security equipment of the [REDACTED]?

15 A. What's listed here probably will not exceed  
16 [REDACTED]

17 Q. And in the parentheses there are examples of  
18 security equipment. What other equipment will these  
19 security cars also have on them?

20 A. We're not aware of any at this time.

21 Q. So this shouldn't be an example; this is a  
22 complete list, to the best of your knowledge?

23 A. To the best of my knowledge.

24 Q. What will be the cost of a new passenger car?

25 A. Right now, about 1.1 million.

1 Q. And the cost of a new mainline locomotive,  
2 about 3,500, 4,000?

3 A. I'm not sure if they make them. The new  
4 6,000 horsepower ones are about 2.2 million.

5 Q. And is the reason that you need two  
6 locomotives to get the horsepower -- to get the pulling  
7 capacity?

8 A. No.

9 Q. Why do you need two mainline locomotives?

10 A. Put two mainline locomotives on each train as  
11 a safety factor so if one would fail, the remaining  
12 locomotive that's functional could continue the train  
13 with the now dead locomotive as another car towards its  
14 destination so we wouldn't have a train stalled  
15 anywhere because a locomotive failed.

16 Q. What would be the weight that the locomotive  
17 would need -- strike that question. Another piece of  
18 used equipment are the buffer cars?

19 A. That's correct.

20 Q. And again, this is a used railroad transport  
21 car. What's a used railroad transport car?

22 A. It would be a car in a type that's generally  
23 accepted and certified by the American Association of  
24 Railroads for use on all railroads. It could be a coal  
25 car, could be anything like that.

1 Q. And with respect to the used passenger car  
2 and the used railroad transport car, would any of these  
3 cars have been used for carrying any sort of hazardous  
4 materials, for example?

5 A. None that I'm aware of.

6 Q. Do they have to be certified as -- how would  
7 PFS know whether there was any contamination on the  
8 used rail cars?

9 MR. SILBERG: Excuse me. For clarification,  
10 are you talking about when they're purchased?

11 MS. CHANCELLOR: Yes, when they're purchased.

12 A. Okay, I guess I'm not sure what sort of  
13 contamination you're looking for.

14 Q. Any type of contamination. They are used.  
15 And you don't know what specifically what piece of  
16 equipment you're going to get, correct?

17 A. Well, it wouldn't be a hazardous cargo car,  
18 if that's what you're asking. I mentioned coal cars.  
19 That's a pretty common type of vehicle that's available  
20 at a pretty reasonable price. It's already type  
21 certified for these speeds under AAR. So I don't know  
22 precisely what sort of contamination you'd be looking  
23 at. Normally used cars are cleaned before they're  
24 offered for sale, and of course they have no exposure  
25 to radioactive materials that would be in any way

1 radioactively contaminated.

2 MR. SILBERG: Excuse me. For clarification:  
3 You said AAR?

4 THE WITNESS: American Association of  
5 Railroads.

6 Q. (BY MS. CHANCELLOR) You mentioned something  
7 about these rail cars being certified at a certain  
8 speed?

9 A. American Association of Railroads type  
10 certifies shipping equipment such as coal cars, all  
11 these intermodal trains that you see; and as long as  
12 you build to their standard for that type  
13 certification, then you're allowed use on general  
14 interchange on any railroad without special permitting  
15 it.

16 Q. And this used equipment that you're  
17 considering purchasing, what speeds would they be  
18 certified to?

19 A. At least 60 miles an hour.

20 Q. Is it dependent on the particular piece of  
21 used equipment, or is it based on type of equipment?

22 A. No, they're type certified.

23 Q. And another piece of used equipment is the  
24 shortline locomotive?

25 A. That's correct.

1 Q. And this is listed at [REDACTED] correct?

2 A. What question?

3 Q. Question 26, answer to question 26.

4 A. Yes.

5 Q. I have a question in general about used rail  
6 equipment. Do the wheels wear out? I mean, do they  
7 wear down? I mean, do they have to be replaced?

8 A. All of the moving parts on them are part of a  
9 routine maintenance schedule. Whether or not they have  
10 to be replaced, that's an individual case by case. So  
11 there's specifications that if you don't meet them then  
12 you're forced to replace them to keep your type  
13 certification up. So it would depend obviously on the  
14 weight and the travel conditions under which the car  
15 had been in service, which you can readily determine  
16 before you buy it by simply measuring the webs and the  
17 other components of the wheels.

18 Q. Does any sort of maintenance or mileage  
19 record come with these used pieces of equipment?

20 A. Yes, you get the records.

21 Q. Do you consider there to be any increased  
22 safety risk, for example, derailment by using used  
23 equipment versus new?

24 A. None.

25 Q. What would be the cost of a new shortline

1 locomotive?

2 A. Probably, depending again on horse, probably  
3 in the range of seven to eight hundred thousand  
4 dollars.

5 Q. And what horsepower are you talking about for  
6 the [REDACTED] used shortline?

7 A. That would probably be around a 2,000 horse  
8 locomotive.

9 Q. And where will the shortline locomotive be  
10 used?

11 A. Just on the Great Salt Lake and Southern  
12 Railroad.

13 Q. So that's the low rail corridor portion?

14 A. Yeah. It's strictly to move empties back out  
15 to the mainline.

16 Q. And would the shortline locomotive be used at  
17 all to pick up a shipment of fuel from the mainline and  
18 bring spent fuel casks to the facility?

19 A. That's not the intention, no.

20 Q. Is there any required certification required  
21 to move spent nuclear fuel with a particular type of  
22 locomotive?

23 A. No.

24 Q. Do you have any idea of the maintenance and  
25 repair schedule needed for the mainline locomotive?

1 A. I have an idea, but not by memory.

2 Q. Is it on any piece of paper that you know  
3 that PFS has supplied to the state?

4 A. Well, the costs were included in the filing  
5 to the surface transportation court.

6 Q. The maintenance costs?

7 A. All of those costs, right.

8 Q. Submitted as a proprietary pleading, a  
9 document?

10 A. I can't answer that without looking at it.

11 Q. Do you have any idea of typical costs for  
12 maintenance?

13 A. Not off the top of my head by memory, no.  
14 It's based on mileage.

15 Q. So how many miles would it need to be  
16 serviced? Do you know that?

17 A. Again, I don't know. There's different types  
18 of servicing.

19 Q. Not 3,000 miles like a car?

20 A. No, it's more like having that synthetic oil  
21 that goes a lot longer than that.

22 Q. Is it true, Mr. Parkyn, that the areas that  
23 your testimony supports excludes basically the  
24 construction costs that the two Stone and Webster  
25 witnesses testified to?

1 A. That's correct.

2 Q. So in response to question 16, you're  
3 testifying about rail and other transportation  
4 equipment, correct?

5 A. Each of those items that are listed there.  
6 And Stone and Webster material I believe was question  
7 50.

8 Q. You testified that it costs -- can't find it  
9 in your testimony, that's what's taking me some time --  
10 [REDACTED] to construct a transportation cask.  
11 Is that correct?

12 JUDGE BOLLWERK: It's the bottom of page 7.

13 Q. In response to question 23, you state that  
14 the cost of a transportation cask is [REDACTED]  
15 [REDACTED] each.

16 A. That's correct.

17 Q. And where did you -- how did you ascertain  
18 that cost?

19 A. It was originally an estimate, but subsequent  
20 to it, of course, the first of these have been  
21 delivered. One of the PFS members has received  
22 actually three of them at this point.

23 Q. Is that a Holtec transportation cask?

24 A. Yes, the Hi-Star.

25 Q. And in addition -- maybe you could explain

1 what is the package that goes with the transportation  
2 cask.

3 A. Sure. If you're thinking of a set of  
4 equipment, basically, the transportation cask, we'll  
5 call it the Hi-Star, contains within it a canister that  
6 goes to the power plant and is loaded with its fuel,  
7 and it has a specific basket made for that fuel inside.  
8 Then the transportation cask is protected by impact  
9 limiters against any sort of an impact. And then the  
10 transportation cask and its impact limiters ride in a  
11 yoke, metal yoke that's fastened to the rail car. And  
12 then of course the rail car itself. So basically those  
13 four components.

14 Q. Okay. So you've got the [REDACTED]  
15 for the cask, the impact limiters, [REDACTED]  
16 per set?

17 A. That's correct.

18 Q. And is a set required for one cask?

19 A. Yeah, each cask has to have its own set if  
20 they're in shipment simultaneously. I mean, they're  
21 not unique to that cask, but you need to purchase one  
22 for each cask if you really want to use all the casks  
23 at the same time. You cannot ship with fuel in them  
24 without the impact limiters on them.

25 Q. And how did you ascertain these cost

1 estimates?

2 A. On the impact limiters?

3 Q. On the impact limiters.

4 A. Just looking at the design and the fact that  
5 some impact limiters were built by our utility in our  
6 spent fuel pool.

7 Q. And impact limiters, are they specific to the  
8 Holtec casks?

9 A. Yeah, each design is specific to its cask. So  
10 a different vendor would have a different design.

11 Q. And I didn't understand your response about  
12 the utilities. Did the utilities purchase the impact  
13 limiters from Holtec, or did they manufacture them  
14 themselves?

15 A. No, PFS purchases the impact limiters, most  
16 probably from Holtec in the case of a Holtec cask or  
17 whoever would manufacture another type of cask if we  
18 used them.

19 Q. And the yoke, where does that -- see, you've  
20 got the transportation cask and these impact limiters.  
21 What's the yoke?

22 A. Basically the yoke is fastened to the car.  
23 Remember the cask is a round cylinder, and then the  
24 yoke is what's holding the cask to the car. So  
25 basically the cask and the impact limiters are fastened

1 to the yoke. The cask and the impact limiters which  
2 are usually thought of as a shipping package in NRC  
3 terms are then lifted off intact. The yoke will remain  
4 with the rail car.

5 Q. So is the yoke permanently affixed to the bed  
6 of the --

7 A. Effectively. I mean, it's removable, but  
8 it's not intended to be removed in shipment.

9 MR. TURK: Could I hear that last question  
10 and answer one more time?

11 (Pending question read.)

12 Q. Mr. Parkyn, maybe you can explain what  
13 constitutes what I sort of think of as a unit train for  
14 PFS in terms of the locomotive, the equipment. What is  
15 it that would be sort of a shipment that constitutes a  
16 full train?

17 A. Well, comparing the fixed components that  
18 wouldn't vary would be two locomotives, the security  
19 car, and two buffer cars, one between the locomotive  
20 and the first fuel loaded car and one between the last  
21 loaded fuel car and the security car which carries  
22 staff. And then there would be one or more loaded fuel  
23 cars in the middle.

24 Q. Now, under miscellaneous items on Exhibit E  
25 of your testimony, you have two mainline locomotives,

1 six each of cask car, TSF, I guess that's  
2 transportation cars, impact limiter?

3 A. Yeah.

4 Q. Six of those, a security car, two buffer  
5 cars. Would you anticipate that PFS would use all of  
6 these pieces of equipment in a typical shipment to PFS?

7 A. No. As I just mentioned, the number of  
8 loaded cask cars or fuel cars would be dependent on  
9 where it's coming from in the shipping schedule.

10 Q. Could it be as large as six?

11 A. It could be.

12 Q. So the two mainline locomotives could pull a  
13 shipment consisting of the two buffer cars, a security  
14 car, and six cask cars?

15 A. Yes.

16 Q. And it could be as small as one cask car?

17 A. That's correct.

18 Q. Is there a -- would it be more expensive to  
19 move one cask across the country than it would be for  
20 six casks?

21 A. Per cask it would, yeah.

22 Q. And who would pay that additional cost of  
23 just shipping one cask versus six casks?

24 A. The shipper.

25 Q. Mr. Parkyn, are you responsible for -- were

1 you responsible for preparing the 1997 and the 1998 PFS  
2 business plans?

3 A. Yes.

4 Q. And did you have any involvement in preparing  
5 an April 26th, 2000 sheet that included certain  
6 equipment that's Exhibit 16 to the state's testimony?  
7 It's the construction, it's the spreadsheet with all  
8 the Stone and Webster numbers.

9 A. I guess I'd have to see it.

10 Q. Okay. This is Exhibit 16 to the state's  
11 testimony.

12 MR. GAUKLER: Is this what used to be Exhibit  
13 39?

14 MS. CHANCELLOR: Yeah.

15 JUDGE BOLLWERK: We might just mark it for  
16 identification at this point since you've shown it to  
17 the witness.

18 MS. CHANCELLOR: Yes. It's State's Exhibit  
19 16. The old exhibit number was 39, for those who may  
20 not have changed their tabs.

21 JUDGE BOLLWERK: Let the record reflect that  
22 State Exhibit 16, which is entitled PFS Construction  
23 Estimate, dated 4/26/2000 -- is that right?

24 MS. CHANCELLOR: That's correct.

25 JUDGE BOLLWERK: -- is marked for

1 identification.

2 [State's Exhibit 16 was marked  
3 for identification.]

4 MS. CHANCELLOR: Should I give copies to the  
5 reporter now, Your Honor?

6 JUDGE BOLLWERK: Yes, why don't we go ahead  
7 and do that.

8 Q. (BY MS. CHANCELLOR) Have you seen these cost  
9 estimates dated April 26, 2000 before, Mr. Parkyn?

10 A. Yes.

11 Q. Were you involved with ascertaining any of  
12 these costs?

13 A. Yes.

14 Q. And what portion of this document were you  
15 responsible for in general?

16 A. The pages aren't numbered specifically, but  
17 if you would go to what's probably your fifth page  
18 where it most of the way down says Total Phase I.

19 Q. In the right-hand corner there's a number,  
20 for example, at the end of total of --

21 A. Oh. If you go to 53394.

22 Q. Right.

23 A. Okay, then you see where the fourth column  
24 over says "other"?

25 Q. Correct.

1           A.    Okay, basically that amount down to where the  
2 block "Total Phase I" is indicated.

3           Q.    Right.

4           A.    Then if you go to page 53395 and you go down  
5 to where the phrase "other" appears in the third  
6 column.

7           Q.    Correct.

8           A.    And you follow that down to "Total Phase II."

9           Q.    Okay. .

10          A.    Those parts.

11          Q.    And that's it?

12          A.    The rest is site construction.

13          Q.    Okay. In these April 26 numbers you have a  
14 cask, you have two casks haulers here at a cost of [REDACTED]  
15 [REDACTED] with a total of [REDACTED]. Is that  
16 -- oops. I'm on the wrong line. [REDACTED] and a  
17 total cost of [REDACTED]. Is that correct?

18          A.    That's correct.

19          Q.    And yet if you could compare that -- it's a  
20 little difficult because these books are a little  
21 large. If you could compare that with Exhibit E. And  
22 a cask hauler there, you have two at one million  
23 dollars?

24          A.    That's correct.

25          Q.    And in your testimony you state -- what is

1 the reason for the decrease in the cost for the cask  
2 hauler?

3 A. Actual delivery at one of our member  
4 utilities of a cask hauler.

5 Q. And was that a refurbished or a new cask  
6 hauler?

7 A. That was a new.

8 Q. And was that at the Hatch nuclear power  
9 plant?

10 A. That's correct.

11 Q. And what is the cask hauler used for at  
12 Hatch?

13 A. To haul casks.

14 Q. What type of casks?

15 A. Well, they're using it on the Holtec  
16 products, which are the principal ones in our license.

17 Q. Have any of the Holtec casks been loaded at  
18 Hatch?

19 A. Loaded?

20 Q. Is there fuel in any of the Hi-Star casks?

21 A. I believe they're loading them physically  
22 now, but there wasn't as of a week ago. I think it's  
23 this week that they load.

24 Q. Has this cask hauler at Hatch been purchased  
25 specifically to move or whatever do you with a cask

1 hauler the Hi-Star casks?

2 A. It moves the Holtec product, yeah.

3 Q. When you say -- could you explain what you  
4 mean by Holtec product?

5 A. Well, understand that there's the on-site  
6 storage casks, called a HI-STORM, which is less  
7 expensive than the shipping casks, called the Hi-Star.  
8 They're moving both of them because the first  
9 deliveries are the more expensive Hi-Stars. The  
10 subsequent deliveries will be the Hi-STORMs, which are  
11 the concrete-filled on-site storage casks.

12 Q. And this is at Hatch?

13 A. That can handle both of them. I'm sorry;  
14 what?

15 Q. This is at the Hatch reactor; is that  
16 correct?

17 A. That's correct.

18 Q. And physically how far will the cask hauler  
19 at Hatch have to move the transportation casks in  
20 distance?

21 A. I honestly -- I've seen it. I didn't measure  
22 it. I don't know.

23 Q. Short distance?

24 A. It wasn't real short. I mean, I was trying  
25 to imagine where the fence was. Probably more in a two

1 city block range.

2 Q. And what about the storage casks? How far do  
3 they have to be moved at Hatch, the distance?

4 A. They're the same. The slabs are in one  
5 place, so it doesn't make any difference which cask  
6 it's moving. It's the same distance. You sit them on  
7 the same storage pads.

8 Q. And in your -- in the April cost construction  
9 estimates, the visitor center was originally costed at  
10 estimated cost of [REDACTED]; is that correct?

11 A. Let me find it. That's correct.

12 Q. And then in Exhibit E it's [REDACTED]; is that  
13 correct?

14 A. That's correct.

15 Q. Why did the visitor center cost go down by  
16 [REDACTED]?

17 A. Well, subsequent to that a design -- a  
18 variety of designs were prepared by Stone and Webster  
19 and taken by the leadership of the Goshute tribe to the  
20 Goshute people and their semiannual general council,  
21 and they selected the design they wanted.

22 Q. Isn't it true that PFS will have two fire  
23 trucks -- that it will acquire two fire trucks?

24 A. One or two. I can't remember by memory.

25 Q. Isn't it correct that one fire truck will be

1 stationed at the PFS facility?.

2 A. There is a fire truck stationed at the  
3 facility.

4 Q. There is or there will be?

5 A. There is. You mean the PFS facility? It's  
6 not built yet, so there isn't yet. There will be once  
7 we build it.

8 Q. And isn't it true that there will be a fire  
9 truck stationed at the Goshute village?

10 A. There already is.

11 Q. Is this the same fire truck -- will there be  
12 an additional fire truck stationed at the Goshute  
13 village, or has PFS already acquired the fire truck for  
14 the Goshutes?

15 A. No, I don't believe there's a plan to station  
16 an additional one there.

17 Q. Has PFS acquired a fire truck and transferred  
18 that fire truck to the Goshute tribe?

19 A. No.

20 Q. And are you familiar with PFS's emergency  
21 plan?

22 A. Yes.

23 Q. Are you familiar that PFS may use a backup  
24 fire truck from the Goshute village?

25 A. That's correct.

1 Q. Where is the cost of the second fire truck  
2 reflected in PFS's cost estimates?

3 A. The fire truck's already at the Goshute  
4 village.

5 Q. Where did the fire truck from the Goshute  
6 village come from? Was it always there?

7 A. I don't know when they bought it  
8 specifically.

9 Q. Okay. If you look in your cost estimate on  
10 the next page over, which is 53395 under "other" near  
11 the end of total of Phase II, you see a line item for  
12 shortline locomotive, one each at [REDACTED]?

13 A. Yes.

14 Q. If you look at your Exhibit E, is there  
15 anywhere where the second locomotive is reflected in  
16 your cost estimates?

17 A. I guess I'm somewhat confused. It's one  
18 shortline locomotive on both of these. It's the ones  
19 that I have in front of me.

20 Q. If you look at Phase I on page -- in the  
21 April cost estimates on page 3394 above the line Total  
22 Phase I, shortline locomotive, one each, [REDACTED]; is  
23 that correct?

24 A. Yes.

25 Q. Turn the page. On the April cost estimates

1 towards the end of Phase II, so in Phase II, if I read  
2 these cost estimates correctly, you were purchasing a  
3 second shortline locomotive?

4 A. That's what it says. It's our intent to  
5 purchase only one.

6 Q. Why was it -- why was the second -- why was  
7 the shortline locomotive listed in Phase II in April of  
8 2000?

9 A. I can't answer that. It was certainly a  
10 preliminary. Of course, we did a revised one with this  
11 June 15th submittal, but we only need one shortline  
12 locomotive.

13 Q. How often does the shortline locomotive need  
14 to be replaced?

15 A. Replaced?

16 Q. Yes. What's the life expectancy of a  
17 shortline locomotive?

18 A. As long as you maintain it, the life of the  
19 facility.

20 Q. Even a used --

21 A. Certainly.

22 Q. -- shortline locomotive?

23 A. Uh-huh.

24 MR. SILBERG: I'm sorry. Did the reporter  
25 get that answer?

1 THE REPORTER: "Uh-huh."

2 THE WITNESS: We'll make that a yes. It  
3 sounds better now.

4 Q. (BY MS. CHANCELLOR) You testified that the  
5 condition of a used piece of railroad equipment is  
6 dependent on the number of miles it has on it, number  
7 of miles it has traveled, amongst other things.

8 A. For the purpose of when it might have to be  
9 major maintenance to minor maintenance, that's true.  
10 They're not scrapped at a certain age, if that's what  
11 you're asking.

12 Q. Yes. Based on mileage, do they -- I mean,  
13 they can run 40 years, is that what you're saying?

14 A. They could run as long as you want to  
15 maintain it.

16 Q. Is there some point at which the maintenance  
17 is more expensive than replacing the locomotive?

18 A. I presume under certain circumstances there  
19 could be. But most of them that are being replaced are  
20 more cued on the major railroads to petroleum costs,  
21 which they're pretty sensitive to, because they have a  
22 lot of service hours a year. We don't have a lot of  
23 miles or service hours in an average year. They're  
24 running constantly on the railroads.

25 Q. Is it true, Mr. Parkyn, that none of the cost

1 estimates anticipate that any of the rail equipment  
2 will need to be replaced?

3 A. Not if you're looking at a specific capital  
4 expenditure, no.

5 Q. Not if you're looking at what? I'm sorry.

6 A. No, there's not a line entry in there that  
7 says at such-and-such a year, replace them.

8 Q. As a practical matter do you consider that  
9 you will need to replace any of the rail equipment over  
10 the 20-or 40-year life of the facility?

11 A. I don't believe there is. Our fuel in-  
12 shipments, if you look at our license application, are  
13 of course basically in the first 20 years. Out  
14 shipments again would be the responsibility of the U.S.  
15 Department of Energy.

16 Q. And again, do you consider that there are any  
17 safety risks associated with running used equipment for  
18 20 or 40 years?

19 A. Not if they're maintained according to AAR  
20 standards.

21 Q. Does PFS have any sort of plan as to how it  
22 will maintain the equipment?

23 A. Yes. We'll maintain it according to AAR  
24 standards and we'll contract it to certified shops.

25 Q. Is that a commitment you have made to the

1 Nuclear Regulatory Commission?

2 A. I don't know if it's a commitment made to the  
3 Nuclear Regulatory Commission, because transportation  
4 is not part of our license application. The cost of  
5 doing that is included in the costing of operating the  
6 railroad as it was filed with the Service  
7 Transportation Board.

8 MR. SILBERG: Excuse me. Could we go off the  
9 record a second?

10 JUDGE BOLLWERK: Sure.

11 (Discussion off the record.)

12 JUDGE BOLLWERK: I will offer you a break  
13 now, or if you prefer to finish, I will leave it up to  
14 you.

15 MS. CHANCELLOR: Let me just get through a  
16 little more, and then we'll need to take a break.

17 JUDGE BOLLWERK: All right.

18 Q. (BY MS. CHANCELLOR) Where was I? In the  
19 April cost estimates, Mr. Parkyn, in both the April  
20 estimates and in Exhibit E to your testimony, there's  
21 a second set of railroad equipment that PFS acquires in  
22 Phase II.

23 A. That's correct.

24 Q. What is the purpose of acquiring the  
25 equipment in Phase II if you say that the equipment

1 doesn't wear out?

2 A. That's not to replace the equipment acquired  
3 in Phase I, that's to expand the rate of shipments.

4 Q. Is that in anticipation of the 20,000 Phase  
5 III capacity?

6 A. It's in the Phase II projection so that we  
7 can increase the rate of shipments at that time, not at  
8 Phase III.

9 Q. I see. Okay. If you're only shipping 10,000  
10 MTU's, if your capacity for Phase I is 10,000 MTU, the  
11 capacity for Phase II is also 10,000 MTU, why do you  
12 need the second set of equipment?

13 A. Because it's a question of the rate that you  
14 want to take it in at.

15 Q. Do you anticipate that you will increase the  
16 rate at which shipments come in in Phase II even though  
17 it's the same volume capacity as Phase I?

18 A. After the first few years you certainly have  
19 the potential of increasing, but it's dependent on the  
20 signed service agreements which don't just specify  
21 total from utilities, they specify years in which it's  
22 being shipped.

23 Q. So over the life of a facility, would you  
24 expect peak shipments to occur coming into PFS at some  
25 stage during Phase II?

1           A.    Without the service agreements completed with  
2 each utility, I don't know what we'll see.

3           MS. CHANCELLOR: I think we're ready for a  
4 break, Your Honor.

5           JUDGE BOLLWERK: All right. Can we take 15  
6 minutes at this point?

7           (Brief Recess.)

8           JUDGE BOLLWERK: All right, why don't we go  
9 back on the record. We've finished our late afternoon  
10 break. Hard to keep track of time with those curtains  
11 closed. I'm not sure what time it is. I guess we're  
12 going to complete the cross-examination by the state of  
13 Mr. Parkyn.

14          Q.    (BY MS. CHANCELLOR) Mr. Parkyn, you  
15 mentioned -- we were talking about the need for a  
16 second mainline locomotive. In the business plan in  
17 various scenarios there are spent fuel throughputs. Do  
18 you recall that in general? So such that in year 2002  
19 you would get X number of MTU's through either a  
20 20-year scenario or a 40-year scenario?

21          A.    Yeah, I remember that, yes.

22          Q.    Is there a similar computation or scenario  
23 that would accompany your testimony or cost estimates?  
24 Has the business -- have the throughputs in the  
25 business plan been updated?

1           A.    Well, remember the business plan has three  
2 scenarios, so I don't know which one you're asking  
3 about.

4           Q.    Have any of the throughput scenarios in the  
5 business plan been updated from the 1998 business plan?

6           A.    No.

7           Q.    Is that PFS's current -- are the throughputs  
8 under the three various scenarios in the 1998 business  
9 plan PFS's current planning with respect to throughputs  
10 of fuel at the facility?

11          A.    Until the service agreements are done, yes.

12          Q.    When do you anticipate that the service  
13 agreements will be done?

14          A.    Prelicensing. That's how we fund  
15 construction.

16          Q.    Would service agreements have to be completed  
17 before you go out to bid?

18          A.    Not necessarily, but the service agreements  
19 give you the rate of fuel shipment, ultimate size of  
20 the facility.

21          Q.    If you will recall back to your deposition,  
22 isn't it true that you testified about how PFS will  
23 have some breached fuel canisters available for problem  
24 fuel or leaking casks?

25          A.    I don't have it in front of me. It's

1 certainly possible. That was part of our original  
2 application.

3 Q. How will PFS deal with any sort of breached  
4 canisters on site at the PFS facility?

5 A. Okay. At this point we do not have a  
6 requirement for a breached canister overpack, which is  
7 I think what you're asking.

8 Q. No, I'm asking, how will you deal with  
9 breached canisters on site at the PFS facility?

10 A. Now, your assumption is that incoming it's  
11 breached?

12 Q. At any stage while it is from inside the gate  
13 to outside the gate.

14 A. Basically you have to put them in a  
15 transportation cask.

16 Q. If you look at the April spreadsheet for  
17 Phase I, at the end of Phase I construction under  
18 "other," on page 53394, "breached canister overpack."  
19 Do you see that?

20 A. Yes, I see that.

21 Q. And then one breached canister overpack at  
22 the cost of [REDACTED]; is that correct?

23 A. That's correct.

24 JUDGE BOLLWERK: This is State Exhibit 16,  
25 right?

1 MS. CHANCELLOR: I beg your pardon. Yes, it  
2 is.

3 Q. (BY MS. CHANCELLOR) And if you look at your  
4 construction cost estimates of Phase I, isn't it  
5 correct that there's no breached canister overpack  
6 included in those figures?

7 A. That's correct.

8 Q. And why is that?

9 A. Because, as I just mentioned, we would put a  
10 breached canister in a what we'll call Hi-Star. In  
11 other words, it's a shipping cask for containment if  
12 such an event ever occurred.

13 Q. Under Phase I, would that be one of the six  
14 transportation casks that PFS intends to acquire?

15 A. That's correct.

16 Q. Would you need to replace the one storage --  
17 one Hi-Star transportation cask that you take out of  
18 service to store the canister in?

19 A. It depends on the circumstances, in other  
20 words, how long you would be storing it. Service  
21 agreements of course require return to shippers if the  
22 canister's not in accordance with what it's supposed to  
23 be. So normally you would ship it back to your  
24 shipper. They would in fact have to repack it in a  
25 canister that wasn't breached and return it to you so

1 it could be safely stored on site in a storage cask.

2 Q. You would ship a breached canister back in a  
3 transportation cask cross country to a reactor site; is  
4 that correct?

5 A. It depends on how it's breached, in other  
6 words, what exactly you're talking about.

7 Q. Well, depending on how it's breached and it  
8 can't be shipped back, what would PFS do?

9 A. You mean if it could not be shipped back?

10 Q. If it could not be shipped back.

11 A. Then you would have to leave it at the site  
12 until you attained another transportation cask. In  
13 fact, you'd have to replace the transportation cask if  
14 there were no way to safely store it in accordance with  
15 your license in a storage cask, so you would be tying  
16 up a transportation cask.

17 Q. Why did you switch from the breached canister  
18 overpacks to the transportation cask concept?

19 A. Well, the breached canister overpack, if you  
20 look at the dollars, [REDACTED] of the cost of  
21 the transportation cask. So it wasn't a requirement  
22 per se of the license, and in this particular case --  
23 or in the first case you had a piece of gear that  
24 should never be used anyway that would always be  
25 sitting there.

1           In the second case that you're talking about,  
2 the June document, what you're doing is taking the  
3 chance that you might have to tie a shipping cask up.  
4 But it's only [REDACTED] more than the cost of the  
5 breached canister overpack that you never intended to  
6 use anyway. So it's a much better approach to have a  
7 full shipping cask for it. And if you have to take one  
8 permanently out of service, then you'd have to replace  
9 that shipping cask. But that's only [REDACTED] more than  
10 the breached canister overpack.

11           Q.   Isn't it true that in the 1998 business plan  
12 PFS intended to acquire two breached canister overpacks  
13 at a cost of [REDACTED]?

14           A.   I don't know. I'd have to look it up.

15           MS. CHANCELLOR: I have enough copies to make  
16 this an exhibit, Your Honor, or I could just show  
17 Mr. Parkyn a page from the business plan.

18           JUDGE BOLLWERK: Is this something -- this  
19 isn't something you already have marked as one of your  
20 prefiled exhibits?

21           MS. CHANCELLOR: It's not a prefiled exhibit,  
22 but it is in some of the various scenarios in the  
23 business plan, and I've just chosen one to show that it  
24 was actually in the business plan.

25           JUDGE BOLLWERK: How many copies do you have?

1 MS. CHANCELLOR: I have enough to distribute.

2 JUDGE BOLLWERK: Okay.

3 MS. CHANCELLOR: It's just one page.

4 JUDGE BOLLWERK: All right. I'm trying to  
5 figure out where you're short a copy. You indicated  
6 you have enough to --

7 MS. CHANCELLOR: Yeah, I have enough.

8 JUDGE BOLLWERK: Okay, let's go ahead and put  
9 it in. Let's mark it as 32.

10 [State's Exhibit 32 was marked  
11 for identification.]

12 Q. (BY MS. CHANCELLOR) Mr. Parkyn, I've placed  
13 in front of you a page from the 1998 business plan,  
14 page 54 of 117 for the 12.8K MTU scenario. Have you  
15 seen -- printed on the right-hand corner is printed  
16 7/10/98. Are you familiar with this document?

17 A. Yes.

18 Q. If you look at the second to last entry at  
19 the bottom of the page, breached canister overpacks (2  
20 PFS), \$1.5 million; is that correct?

21 A. That is correct.

22 Q. And when you prepared the 1998 business plan,  
23 isn't it true that you anticipated that PFS would need  
24 two breached canister overpacks?

25 A. That's what we accounted for, yes.

1 Q. And now is it PFS's anticipation that it will  
2 not use the breached canister overpacks at all?

3 A. That's correct.

4 Q. Do you see a scenario in which PFS would need  
5 to use breached canister overpacks?

6 A. No, I really do not.

7 Q. If fuel cannot be shipped back to the shipper  
8 and needs to stay on site, do you anticipate that your  
9 NRC license would allow you to store fuel in a Hi-Star  
10 transportation cask on site?

11 A. Yes, I do, because the transportation cask is  
12 very vigorously licensed and constructed for both Part  
13 71 and 72 use, so it would be a stronger storage vessel  
14 than a breached canister overpack.

15 Q. Would such be the case that a transportation  
16 cask would always be located at the PFS facility?

17 A. No.

18 Q. How long would it take PFS -- what would be  
19 the worst case scenario that you could envisage in  
20 terms of the amount of time it would take to get a  
21 transportation cask back to the PFS facility?

22 A. If you're recalling one? In other words,  
23 you're assuming it's somewhere else?

24 Q. If you need a transportation cask to store a  
25 damaged canister in and all of your six transportation

1 casks are someplace in the country, what would be the  
2 maximum amount of time that it would take to get a  
3 transportation cask back to the PFS site? What would  
4 be the worst case that you could envisage in terms of  
5 the amount of time it would take?

6 A. That's a difficult question. Remember the  
7 hypothesized accident that had any potential of ever  
8 damaging a canister was removing it from a  
9 transportation cask. So by definition a traffic cask  
10 is there so you can put it back in.

11 If you're saying some other act caused it to  
12 be damaged other than that movement than was covered in  
13 our license app, I don't know what the specific  
14 instance would be. If all six casks were out,  
15 obviously to some degree it would depend on precisely  
16 where you had them.

17 If you paid the price of a unit train, you  
18 can return them with an average rail speed -- remember  
19 these are non-loaded casks -- at that point at least 45  
20 miles an hour average, which is what unit trains  
21 typically achieve. You would just pay the price of  
22 running a unit train with a single shipping cask that  
23 was empty in it.

24 Q. And if it had to come from say Florida or  
25 Wisconsin, someplace on the east coast --

1 A. Wisconsin's not on the east coast.

2 Q. It's out there somewhere.

3 MR. SILBERG: It's a result of the PMF.

4 Q. Maine, I know Maine's in the east. It would  
5 have to come from Florida or Maine.

6 A. You know, I'd have to do the math  
7 specifically.

8 Q. Two days? Three days?

9 A. Not over a couple days max, no.

10 MS. CHANCELLOR: Couple, okay.

11 Your Honor, I move that State's Exhibit 32 be  
12 entered into the record.

13 JUDGE BOLLWERK: All right. First of all,  
14 the record should reflect that State Exhibit 32, which  
15 is identified as a page 54117 from the 1998 PFS  
16 business plan, has been identified as State Exhibit 32.  
17 And then the motion has been made that it be received  
18 in evidence. Any objection?

19 MR. SILBERG: We have none to the extent that  
20 it's been used in this cross-examination.

21 MS. MARCO: No objection.

22 JUDGE BOLLWERK: All right, then State  
23 Exhibit 32 will be received into evidence.

24 [State's Exhibit 32 was  
25 received into the record.]

1 MR. SILBERG: Excuse me. Is that with the  
2 caveat I posed?

3 JUDGE BOLLWERK: Agreed as to the use as part  
4 of the --

5 MR. SILBERG: No, I mean to the extent that  
6 it was used.

7 JUDGE BOLLWERK: Do you have any objection to  
8 that caveat?

9 MS. CHANCELLOR: I don't see the need for the  
10 qualifications.

11 JUDGE BOLLWERK: The document's there. He's  
12 testified about it. I think we'll just admit it, leave  
13 it at that.

14 Q. (BY MS. CHANCELLOR) Mr. Parkyn, I'd now like  
15 to turn to other loading system equipment at the PFS  
16 facility, and that's in answer to question 28 in your  
17 testimony. There's a category called "Other loading  
18 system equipment costs" for the PFS facility. Do you  
19 have that -- it's on page 8, the bottom of page 8 of  
20 your testimony. What do you mean by spent fuel  
21 transfer casks? Is that the Hi-Trac -- in terms of  
22 Holtec terminology, is that the Hi-Trac transfer cask?

23 A. It is.

24 Q. And how many transfer casks will PFS acquire?

25 A. Two.

1 Q. And where will these transfer casks be used?

2 A. One is used at the site and one is used out  
3 at the various reactors.

4 Q. And the one that's used at the various  
5 reactors, how is it used at the various reactors?

6 A. It's shielding from -- for those reactors  
7 which are placed in the canister in their storage pool,  
8 and then loading the entire canister and making one  
9 movement out to the transportation casks. The  
10 shielding is in the so-called transfer cask or, as you  
11 point out, the brand name Hi-Trac for Holtec.

12 Q. And the transfer cask, is that actually  
13 immersed into the spent fuel storage pool at the  
14 reactor site?

15 A. Yes.

16 Q. And then that transfer cask is taken from one  
17 reactor site and then moved to some other reactor site  
18 that wants to ship to PFS; is that correct?

19 A. That's correct.

20 Q. PFS has a philosophy of stay clean, start  
21 clean. How do you guard against any contamination that  
22 occurs on the canisters that are shipped to Private  
23 Fuel Storage if the transfer cask is sent from reactor  
24 to reactor and used in various spent fuel pools?

25 A. Okay. Our requirement for the shipper is

1 that we want to start clean and stay clean, and  
2 therefore they cannot ship us a canister that has  
3 contamination on the outside of the canister.

4 To achieve that, they will end up with a  
5 spent -- or demineralized water annulus around the  
6 equipment that they're using, so there will be a buffer  
7 of non-contaminated water around the transfer cask  
8 canister that's slid into their pool.

9 Q. And is the outside of the transfer cask  
10 protected from contamination?

11 A. That's what is required, yeah.

12 Q. You have to help me a little bit on this. You  
13 mentioned that there's some sort of protection between  
14 the inside of the transfer cask and the canister.

15 A. Outside, yeah.

16 Q. Outside --

17 A. The canister.

18 Q. Outside of the canister and inside of the  
19 transfer cask?

20 A. That's correct.

21 Q. What about the outside of the transfer cask?  
22 How is that protected from contamination?

23 A. They're to keep only clean demineralized  
24 water around it, and one method that is readily  
25 available is to put it in an annulus at a site

1 basically that has a purge of demineralized water going  
2 out into the pool.

3 Q. What's an annulus?

4 A. It's just like a circular cylinder. So water  
5 will be coming in that is contamination free from the  
6 demineralized water system and then will flow out  
7 towards the pool so that pool water won't go in towards  
8 the outside of the transfer cask, or the canister's  
9 outside which is inside the transfer cask.

10 Q. And will this transfer cask be used under  
11 PFS's Part 72 license at the reactor site?

12 A. No.

13 Q. If you know, will the reactor site have to  
14 obtain a special license to use the transfer cask?

15 A. They would use it under their general --  
16 their Part 50 license.

17 Q. [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 Q. [REDACTED]

22 A. [REDACTED]

23 Q. [REDACTED]

24 A. [REDACTED]

25 [REDACTED]

1 Q. You talk in your -- in response to question  
2 28 you talk about miscellaneous equipment that's  
3 associated with loading equipment. What do you mean by  
4 miscellaneous equipment?

5 A. I did reference that question 33, the answer  
6 to that.

7 Q. Question 33?

8 A. Yeah. Also on page 9.

9 Q. I'm going to be referring to State's Exhibit  
10 20, and the old exhibit number is 43. It's a letter  
11 from --

12 MR. SILBERG: Did you want a copy of it?

13 MS. CHANCELLOR: Oh, if you've got an extra  
14 copy, sure. I need to introduce it as an exhibit.  
15 Okay, I've got it.

16 Q. (BY MS. CHANCELLOR) State's Exhibit 20 that  
17 I've just handed to Mr. Parkyn is a -- has a cover page  
18 from Holtec International. It looks like a fact sheet  
19 and consists -- second page is a letter to Max DeLong  
20 from Steve Agace, operations manager of Holtec, and the  
21 letter is dated December 12, 1998. Have you seen this  
22 letter before, Mr. Parkyn?

23 A. I have.

24 JUDGE BOLLWERK: All right, let's go ahead  
25 and mark it for identification. Let the record reflect

1 that it's State Exhibit 20 as described by Ms.  
2 Chancellor at the bottom right of the page.

3 [State's Exhibit 20 was marked  
4 for identification.]

5 Q. (BY MS. CHANCELLOR) In this letter, isn't it  
6 true, Mr. Parkyn, that Holtec suggests that the loading  
7 of fuel may be different at each PFS member reactor  
8 site?

9 A. They suggest that, yes.

10 Q. Do you agree with their assertion?

11 A. No.

12 Q. And why is that?

13 A. Because the loading of fuel at each of the  
14 sites is relatively similar. The cost, of course, of  
15 any at-site provisions that a utility would choose to  
16 utilize other than what we provided their costs anyway.  
17 This was basically a marketing effort, and we just  
18 declined to participate in that.

19 Q. So the statement, "To this day, we have yet  
20 to identify two sites that will perform loading in the  
21 same way," you think that's a marketing statement?

22 A. No. I guess my comment is that they feel  
23 they need to go to each of these sites at a cost of  
24 [REDACTED], which indicates they really haven't been to  
25 these sites and determined that they're all different.

1 That's what they're proposing on doing.

2 Q. And did you authorize Holtec to conduct a  
3 survey at the cost of [REDACTED] -- well, to conduct such  
4 a survey?

5 A. No, I did not.

6 Q. If PFS finds that the way in which the sites  
7 perform loading of fuel is significantly different,  
8 would PFS have to acquire different types of equipment  
9 to supply the utilities so that the utilities could  
10 ship their fuel to PFS?

11 A. No.

12 Q. Is it your position that the dry transfer  
13 system and the Hi-Trac type transfer system would cover  
14 the universe of types of transfer that is needed at a  
15 reactor site to enable them to ship fuel to PFS?

16 A. To the degree that we're going to provide  
17 equipment, yes.

18 Q. If PFS uses another cask, then would PFS have  
19 to supply a different type of equipment to the reactor  
20 site so they could ship their fuel to PFS?

21 A. Now you're talking about the Hi-Trac, the  
22 transfer casks?

23 Q. Well, let's stick with Hi-Trac for the  
24 moment, yes.

25 A. Yeah, you would provide that vendor's

1 transfer cask.

2 Q. And that would -- the cost of acquiring an  
3 additional transfer cask, that would be a PFS cost; is  
4 that correct?

5 A. Yes, that's what we would plan on doing if  
6 there were cost justification to use a second vendor.

7 Q. So if there are significantly different  
8 loading needs at a reactor site such that they couldn't  
9 use a Hi-Trac transfer cask or a dry transfer system,  
10 this would be another possible cost to PFS customers;  
11 that is correct?

12 A. If such an event occurred, yes.

13 MS. CHANCELLOR: Your Honor, I'd like to move  
14 that State's Exhibit 30 -- what number was it? 32, was  
15 it? Oh, 33 -- be accepted into evidence. Oh, no. This  
16 is State's Exhibit 20.

17 JUDGE BOLLWERK: This is one you already  
18 marked, premarked.

19 MS. CHANCELLOR: That's right, 20.

20 JUDGE BOLLWERK: Any objection? No? All  
21 right, then State Exhibit 20 is received into evidence.

22 [Whereupon, State's Exhibit 20  
23 was received into the record.]

24 Q. (BY MS. CHANCELLOR) I'd like to turn now,  
25 Mr. Parkyn, to the dry transfer system. Could you

1 explain what a dry transfer system is?

2 A. Yes. Dry transfer is basically a -- call it,  
3 for want of a better word, a bell-shaped cask that  
4 receives fuel assemblies in lots of one to four out of  
5 the spent fuel pool and then is used to transfer with  
6 multiple transfers the number of assemblies used to  
7 fill a canister. In that particular scenario the  
8 canister and the transfer casks are not immersed in the  
9 pool.

10 Q. And what shields the assemblies as they're  
11 taken from the spent fuel pool and placed into the  
12 canister?

13 A. Dry transfer casks.

14 Q. But the dry transfer cask doesn't -- is not  
15 immersed in the pool; is that correct?

16 A. No. But you just asked me what shielded it  
17 from the pool to the canister, the canisters with the  
18 shipping cask.

19 Q. The dry transfer cask is -- how far is  
20 that -- where is that located in relationship to the  
21 spent fuel pool?

22 A. It's usually right above it or slightly  
23 immersed in the top of it.

24 Q. So can you just very -- go step by step  
25 through the mechanism. Is there a time at which the

1 assemblies are out of the pool but yet have not been  
2 put into --

3 A. No.

4 Q. -- the dry transfer system?

5 A. No.

6 Q. What happens between the top of the -- the  
7 top of the spent fuel pool and the dry transfer system  
8 that's on the edge of the pool?

9 A. It's not on the edge of the pool. It's  
10 actually right at the water surface or slightly below  
11 it. You can put the lip in.

12 Q. So it hovers above the pool?

13 A. Right, it hovers above. On a perfectly safe  
14 crane. It's not hovering.

15 Q. Figure of speech. And how many of these  
16 units will PFS acquire?

17 A. Two.

18 Q. And where will the two units be located?

19 A. At those utilities that select that method to  
20 load their canisters.

21 Q. So these two dry cask systems would travel  
22 from utility to utility that needed to load their fuel  
23 by that method?

24 A. That's correct.

25 Q. And under -- would PFS's license condition,

1 Part 72 license be involved at all in the dry transfer  
2 system --

3 A. No.

4 Q. -- the use of the dry transfer system?

5 A. No.

6 Q. Would any licensing costs associated with the  
7 dry transfer system be borne by PFS?

8 A. Yes. The design initial certification or  
9 topical report to the NRC is borne by PFS as well as  
10 the fabrication of the two of them.

11 Q. And are there such dry transfer systems in  
12 existence at the moment?

13 A. They've been used. I don't know if they're  
14 specifically in use right now. I know the Navy uses  
15 them, but I don't follow what the Navy protocol is on  
16 how many they're using at this particular point.  
17 They've also been used, though leaving them wet, at Big  
18 Rock Point. They're used at Hallam in Nebraska.  
19 They're also used at Three Mile Island unit two.

20 Q. And the design of the dry transfer system, is  
21 that a cost that's borne by PFS?

22 A. Yes.

23 Q. And is this -- it sounds like this is not an  
24 off-the-shelf design. Is that correct?

25 A. No.

1 Q. The dry transfer system?

2 A. I mean, the concept and the design of the  
3 past ones are certainly there, but the specific one for  
4 this case with the indexing plate were before.

5 Q. And how did you estimate the cost of  
6 designing the dry transfer system?

7 A. Oh, we've worked with -- there are six  
8 vendors interested, roughly, in doing it. And we  
9 included the cost of design in the prelicense here  
10 we're in now. So we're basically paying for the  
11 design; in parallel, the licensing process would then  
12 pay for manufacture as part of construction.

13 Q. Do you have any vendor bids for the design of  
14 the dry transfer system?

15 A. I know we have estimates. I don't think they  
16 have bids yet.

17 Q. Have you given any estimates that you may  
18 have received and you provided a state a copy of those  
19 estimates?

20 A. I think they're just oral interviews as our  
21 team has gone around. I haven't seen anything in  
22 writing yet.

23 Q. You mentioned in answer to question 41 that  
24 the cost of the dry transfer system is based on scaling  
25 down the cost of the transportation cask. Is that

1 correct?

2 A. You mean why did we originally go to it? Yes.

3 Q. No, the cost of the dry transfer cask is  
4 based on scaling down the costs of the transportation  
5 cask to a smaller reactor. Am I reading the right one?

6 A. You're reading the right one. I thought you  
7 were asking something else that you had asked before.

8 Q. No, I'm asking whether the cost of the dry  
9 transfer system, how that relates to scaling down the  
10 cost of the transportation cask.

11 A. You mean why is it [REDACTED]  
12 where the transportation cask is [REDACTED]?

13 Q. I don't understand the term "scaling down the  
14 costs of the transportation cask" in your answer to  
15 question 41. If you could enlighten me on that, I'd  
16 appreciate it.

17 A. Basically it was looking at what's involved  
18 in it relative to a full transportation cask that's  
19 licensed for shipping off a licensed premises. But  
20 then after you've scaled that down, basically you raise  
21 the price back up because of the fact that you're only  
22 buying two of them, whereas the transportation casks  
23 have a much larger market. So any costs the  
24 manufacturer would have in the process beyond the  
25 contribution we're making towards design would be

1 recovered with just two of them so that we -- we did  
2 that to a large number of vendors who would look at  
3 this, because this isn't something that's going to be  
4 replicated many times over, whereas the vendors that  
5 are providing transportation casks certainly have that  
6 potential.

7 Q. So the cost of the transportation cask, did  
8 you take the cost that PFS would obtain a  
9 transportation cask from a vendor? Was that your  
10 starting premise with respect to estimating costs for a  
11 dry transfer system before you started scaling it down?

12 A. It was part of it, sure.

13 Q. Was that the starting point?

14 A. Well, as you know, obviously we made these  
15 estimates before the recent sale, so we now have a  
16 relatively firm price in the transportation cask.

17 Q. How much did you scale down the  
18 transportation -- the cost of the transportation cask  
19 before you scaled it up to cover the design and  
20 regulatory costs?

21 A. By recollection, roughly to about [REDACTED]

22 [REDACTED]

23 Q. And is the cost of scaling down the  
24 transportation cost, is that the fabrication cost of  
25 building the scaled-down -- I guess it's the cost

1 that's scaled down, not the cask, correct?

2 A. Well, the cask is scaled down. Are you  
3 asking if a dry transfer cask is smaller? --

4 Q. Yes.

5 A. -- than a shipping cask?

6 Q. Yes.

7 A. That would be smaller, only sufficient in  
8 diameter to hold one to four assemblies. So there's  
9 less material, less labor and construction.

10 Q. So you initially estimated a smaller, the  
11 cost of a smaller transportation cask; is that correct?  
12 About [REDACTED]?

13 A. I guess that's one way to put it.

14 Q. And then how did you determine the additional  
15 cost of design and regulatory costs of the system?

16 A. Now, you're talking about the portion that's  
17 in construction? I said previously, design is already  
18 part of the preconstruction that we're paying for. But  
19 the portion that's in here --

20 Q. Could we just stop there for a moment? You  
21 said that you were talking with six vendors and you  
22 just had verbal conversation with them. Is there  
23 something on paper with respect to design?

24 A. No, I didn't say that I had talked to them. I  
25 said we had a technical committee that's been talking

1 with them to assure their interest in responding to our  
2 requests for proposals that we're going to put out. So  
3 at this point I have not seen any pieces of paper.

4 Q. Has PFS -- you mentioned some preconstruction  
5 costs for design.

6 A. I mentioned the base design will be  
7 accomplished preconstruction and paid for as part of  
8 our preconstruction costs. So this is the interaction  
9 with the NRC in getting these certified, the topical  
10 report. And the fact that their efforts at  
11 manufacturing, shifting their line over, etc., will be  
12 to just make two of them rather than a much larger  
13 number. The design again is being handled  
14 preconstruction.

15 Q. Has the design actually started for these dry  
16 transfer systems?

17 A. Just conceptually so far. Each vendor has an  
18 idea. I don't know what each one has for an idea.

19 Q. And how long will it take to get from a  
20 conceptual state to construction drawing stage or  
21 whatever stage you need to manufacture the dry transfer  
22 system?

23 A. Most of the estimates we've heard are, this  
24 is a six- to nine-month project, then they would file  
25 it.

1 Q. They would file it with whom?

2 A. The Nuclear Regulatory Commission.

3 Q. So after they build the design -- after they  
4 design the dry cask storage system, do they submit a  
5 technical report to the Nuclear Regulatory Commission?

6 A. Yes.

7 MR. SILBERG: I'm sorry. You said dry cask  
8 storage system. You meant dry transfer?

9 MS. CHANCELLOR: Dry transfer system. Thank  
10 you, Jay.

11 Q. (BY MS. CHANCELLOR) Given that this is not  
12 an off-the-shelf design, if the design and/or  
13 construction of the dry transfer system time wise occur  
14 within the construction period, would you consider that  
15 to be a construction cost rather than the  
16 preconstruction cost?

17 A. I think you've lost me. You better repeat  
18 that one.

19 Q. Given that the dry transfer system is not an  
20 off-the-shelf model, and if the design and regulatory  
21 cost occur time wise such that they occur in the  
22 construction period, would you consider that to be a  
23 construction cost?

24 A. No. Because, as I mentioned, the request for  
25 proposals, that would all basically require the design

1 to occur preconstruction.

2 Q. Would you delay construction if these dry  
3 transfer casks had not been designed by the time you  
4 wanted to begin construction?

5 A. There's no way that they would not be  
6 designed in that time frame.

7 Q. Can you be assured that the Nuclear  
8 Regulatory Commission will approve these casks, that  
9 there's no way that this can occur before the  
10 construction period commences?

11 A. They're not being asked to approve of them  
12 before the construction period commences. The typical  
13 year that's involved in approval of a topical report  
14 would be during the construction period. That's why  
15 we're financing the design ahead of time, so it can be  
16 submitted to the NRC. And then they would have the  
17 approval process there and then construction of them.

18 Q. Mr. Parkyn, in construction, just like these  
19 hearings, if anything can go wrong, it will go wrong.  
20 If for some reason the design and the fees, the costs  
21 that you now anticipate are preconstruction, if they --  
22 if they do go into the construction phase, will they be  
23 counted as a PFS construction cost?

24 MR. SILBERG: Asked and answered. He says  
25 that the design will be done before construction, he

1 can't conceive of a way it will not, and he's now being  
2 asked the same questions, what happens if that doesn't  
3 occur.

4 MS. CHANCELLOR: That is correct. I'm asking  
5 him to assume that the impossible will happen, because  
6 I don't think -- I think it's unreasonable for  
7 Mr. Parkyn to testify that it can't happen.

8 Q. (BY MS. CHANCELLOR) All I'm asking is, if it  
9 does happen -- it's an accounting question. If it does  
10 happen, will it be a construction cost or is it somehow  
11 otherwise accounted for?

12 A. No, it won't be a construction cost because  
13 it's already precollected.

14 Q. Precollected?

15 A. Yeah. It's collected as part of the member's  
16 subscription agreements preconstruction, the money for  
17 the design for the dry transfer cask.

18 Q. Okay, thank you. If you were required to  
19 make a showing today to the NRC for the total  
20 construction costs for a [REDACTED] MTU facility, what  
21 would that number be?

22 A. It would be the number in the estimates that  
23 were given, which I believe is [REDACTED]  
24 [REDACTED]. That would be Appendix E to the June 15th  
25 document.

1 Q. Where would the associated administrative and  
2 operational costs, where would those costs be  
3 allocated? If you would turn to page 13 of your  
4 testimony, it might assist.

5 JUDGE BOLLWERK: Appendix E, did you mean  
6 Exhibit E?

7 THE WITNESS: It's my fault.

8 JUDGE BOLLWERK: I just wanted to make sure.

9 A. What is the question number?

10 Q. It's just the general heading Roman Numeral  
11 III, Associated Administrative and Operational Costs.

12 A. You mean it's part of a question, response or  
13 something?

14 Q. Let me ask it this way. You testified that  
15 if you had to make a showing today to NRC that the  
16 total construction costs would be [REDACTED]

17 [REDACTED].  
18 A. Okay.

19 Q. Isn't it true that the associated and  
20 administrative operational costs are not included in  
21 this [REDACTED]?

22 A. That's true.

23 Q. Yet these costs, these associated,  
24 administrative, and operational costs occur  
25 preoperational; isn't that correct?

1           A.    Now, I assume you're talking about those that  
2 occur -- oh, preoperational but during construction?

3           Q.    But during construction.

4           A.    That's correct.

5           Q.    Were these costs -- why aren't these costs  
6 considered construction costs?

7           A.    These costs are pretty much the relationship  
8 of the PFS with the host's payment of fees to the  
9 Nuclear Regulatory Commission. So they would either  
10 come out of any subscription beyond the 101 million  
11 minimum for construction, or the members who pay them.

12          Q.    Does PFS assume that construction costs are  
13 based on where the money comes from to pay for those  
14 costs?

15          A.    I don't know exactly what the question is.

16          Q.    You stated that these associated  
17 administrative and operational costs that occur during  
18 the construction season come from subscription  
19 agreements and from funds that you aren't using for  
20 construction. Is that correct?

21          A.    They're not part of physical construction of  
22 the facility, that's correct. They're host payments of  
23 one of the items. Of course, those are being made now,  
24 and PFS members have paid them. So they were not  
25 tacked on top of construction costs during those 24

1 months.

2           There was an item in there of when you  
3 receive your NRC license, there's a fixed fee for Part  
4 72 licenses that has to be paid annually. That's not  
5 obviously part of the construction, so we would pay  
6 that directly.

7           Q.   For example, in answer to question 51, you  
8 state that there will be three staff, the costs of up  
9 to three staff persons may be costs incurred by PFS  
10 that are not directly reflected in construction cost  
11 estimates. What would these three staff persons be  
12 doing during the construction season -- construction  
13 period?

14           A.   They would be there to begin the process of  
15 preoperational setup, certainly also overseeing  
16 consistency of construction with the license so that we  
17 would be ready to operate upon completion of  
18 construction.

19           Q.   If they are overseeing construction, why  
20 isn't it a construction cost?

21           A.   Because I said that is one of the things they  
22 could do. Their principal function is setting up the  
23 operating entity. You'll notice further down I talk  
24 about starting staffing at operational levels a certain  
25 number of months ahead of operation. And that cost was

1 treated the same way. It's a BFS cost. It's not part  
2 of construction. It's prudent to do that so that your  
3 staff are well trained and ready to go. And of course  
4 these three persons would be involved in that staff  
5 recruitment and evaluation of procedures that have been  
6 written for operating the facility.

7 Q. Would you consider this, then, an operational  
8 cost?

9 A. But it's preoperation so we're paying the  
10 other method.

11 Q. It seems to be slipping through the cracks  
12 somewhere. It's not construction and it's not  
13 operations. Is that correct?

14 A. If you're defining operations as what occurs  
15 per that license condition once construction is  
16 complete, that's true. These are expenses before that.

17 Q. Is it your position that you don't have to  
18 make a showing of costs of commitments, service  
19 agreements to cover these operational -- maybe  
20 operational type costs? Some of these may be  
21 construction type costs, but for that portion that may  
22 be considered operational type costs, that you don't  
23 have to make a showing under the second license  
24 condition that you have sufficient service agreements  
25 in place to cover those operational costs that occur

1 pre-operations?

2 A. Yes.

3 MR. SILBERG: Excuse me. I'm thoroughly  
4 confused by both the question and the answer.

5 MS. CHANCELLOR: Obviously Mr. Parkyn  
6 understood the question.

7 MR. TURK: He answered it.

8 MR. SILBERG: You're assuming that that is  
9 not included in the first license, compliance with the  
10 first license condition?

11 MS. CHANCELLOR: I don't know where these  
12 costs are allocated. They seem to be in this sort of  
13 gray zone between operational costs that occur during  
14 the construction period.

15 I don't know why I'm testifying to your  
16 questions, Jay.

17 Q. (BY MS. CHANCELLOR) Is it your position, Mr.  
18 Parkyn, that PFS will determine what in fact are  
19 construction costs for purposes of totaling up what the  
20 construction costs are for Phase I?

21 A. I don't understand that.

22 Q. That's a terrible question. I'll withdraw  
23 the question. Will costs that PFS incurs during the  
24 construction season such as the host payments and  
25 administrative costs and the licensing fees, the costs

1 that you have listed here, will these costs be  
2 available to the NRC staff?

3 MR. SILBERG: Excuse me. Could you explain  
4 what you mean by available to the NRC staff?

5 Q. (BY MS. CHANCELLOR) Will the NRC staff be  
6 able to see these costs and evaluate for themselves  
7 whether they consider these costs to be construction  
8 costs?

9 MR. SILBERG: You mean prior to the  
10 satisfaction of the license condition?

11 MS. CHANCELLOR: Exactly, as a prerequisite  
12 to satisfying the --

13 MR. SILBERG: I understand. Thank you.

14 Q. (BY MS. CHANCELLOR) Will these costs be  
15 available to the NRC staff?

16 A. Yes.

17 Q. Will these costs be updated as additional  
18 costs are incurred by PFS during the construction  
19 period that PFS may not label as construction? Will  
20 they be updated?

21 A. There are none that I know of, so I don't  
22 know what we would update them with.

23 Q. If you incur additional costs that you  
24 haven't thought about now but that you may not label  
25 construction costs, will there be something in writing

1 that will alert the NRC staff that PFS will incur these  
2 costs?

3 MR. SILBERG: Are you referring to the point  
4 in time before satisfaction of the license condition,  
5 or during construction? We're going to have a very  
6 confused record, I'm afraid, if we don't get --

7 Q. (BY MS. CHANCELLOR) I'm referring to the  
8 panoply of costs that seems to be in this gray zone.  
9 I'm trying to understand whether PFS is going to create  
10 some type of record, paper trail that can be evaluated  
11 as to whether they are in fact construction costs,  
12 operation costs, or some sort of gray zone costs. Will  
13 PFS document the costs that it anticipates that it will  
14 incur during the construction time period but that  
15 which PFS does not consider to be construction costs?

16 A. Well, we have in this. Of course, these  
17 costs such as NRC licensing and that the NRC's quite  
18 well aware of.

19 Q. But it's not well aware of the other costs.  
20 Is that correct?

21 MR. TURK: I would object. I think she's  
22 asking this witness to say what the NRC is aware of. I  
23 don't think the witness can say that. And I'm sure Mr.  
24 Silberg's concerned that the record is a little muddled  
25 the right now as to what the NRC will be looking at or

1 be asked to look at.

2 MS. CHANCELLOR: I'll withdraw the question,  
3 Your Honor.

4 Q. (BY MS. CHANCELLOR) Just as an example of  
5 whether these costs have been updated, isn't it true  
6 that under the lease agreement with the Band that the  
7 costs have to be escalated every five years?

8 A. Yes.

9 Q. And the lease agreement was signed in 1997;  
10 is that correct?

11 A. I believe that's correct.

12 Q. So have the costs of host payments, does that  
13 include escalation within the five-year period that  
14 would occur either prior to or during the construction  
15 period of Phase I?

16 A. You're asking if it's retroactive?

17 Q. No. The host payments will occur during a  
18 two-year period, correct, during construction of PFS?

19 A. That's correct.

20 Q. And that two-year period would be from say  
21 2002 to 2004?

22 A. I believe late 2001 to 2003.

23 Q. And if you add five years to May of 1997, you  
24 come out with May of 2002, correct?

25 A. That's correct.

1 Q. And the payments to the Band would need to be  
2 escalated in May of 2002; is that correct?

3 A. By memory, that's correct.

4 Q. And the host payments listed in response to  
5 question 55 include a total of [REDACTED]; is that  
6 correct?

7 A. That's correct.

8 Q. And do these payments reflect the escalation  
9 that would occur in May of 2002 to the Band?

10 A. No.

11 Q. Would PFS review its associated  
12 administrative and operations cost to determine whether  
13 it needed to update it such as the escalation of the  
14 payments to the Band?

15 A. Well, all of our revenue streams have that  
16 escalator in. So, you know, the assumption is  
17 certainly that the cost would also escalate.

18 Q. So the [REDACTED] total cost over the  
19 construction period is not quite correct; is that --

20 A. That's correct, as date of submittal.

21 Q. But you testified that the host payments to  
22 the Band have not been escalated in this -- in response  
23 to question 56.

24 A. That's correct.

25 Q. So to that [REDACTED], we would

1 have to add a little more for the escalation to the  
2 Band. Is that correct?

3 A. If that's what the parameters show.

4 Q. What do you mean if that's what the  
5 parameters show?

6 A. There's various escalating parameters,  
7 obviously you have to reflect whatever their escalation  
8 is or isn't.

9 Q. So this [REDACTED] could change  
10 depending on the parameters that are involved with  
11 those costs; is that correct?

12 A. Certainly.

13 Q. In PFS's -- in Exhibit A, Mr. Parkyn, there's  
14 no line item for interest on borrowed construction  
15 funds; is that correct?

16 A. That's correct.

17 Q. Do you see any scenario under which PFS may  
18 be -- may borrow funds for construction?

19 A. For itself, no.

20 Q. [REDACTED]

21 A. [REDACTED]

22 [REDACTED]

23 [REDACTED]

24 [REDACTED]

25 [REDACTED]

1 Q. [REDACTED]

2 A. [REDACTED]

3 [REDACTED]

4 [REDACTED]

5 [REDACTED]

6 [REDACTED]

7 [REDACTED]

8 [REDACTED]

9 [REDACTED]

10 Q. [REDACTED]

11 [REDACTED]

12 A. [REDACTED]

13 Q. [REDACTED]

14 [REDACTED]

15 [REDACTED]

16 A. [REDACTED]

17 Q. [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 A. [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 [REDACTED]

24 [REDACTED]

25 [REDACTED]

1

[REDACTED]

2

Q.

[REDACTED]

3

[REDACTED]

4

[REDACTED]

5

[REDACTED]

6

A.

[REDACTED]

7

[REDACTED]

8

[REDACTED]

9

Q.

[REDACTED]

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[REDACTED]

11

A.

[REDACTED]

12

[REDACTED]

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Q.

[REDACTED]

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[REDACTED]

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A.

[REDACTED]

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[REDACTED]

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[REDACTED]

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Q.

[REDACTED]

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[REDACTED]

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A.

[REDACTED]

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[REDACTED]

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Q.

[REDACTED]

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[REDACTED]

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[REDACTED]

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Q.

[REDACTED]

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[REDACTED]

A. [REDACTED]

Q. [REDACTED]

[REDACTED]

[REDACTED]

A. [REDACTED]

Q. [REDACTED]

A. [REDACTED]

Q. [REDACTED]

[REDACTED]

A. [REDACTED]

[REDACTED]

Q. [REDACTED]

[REDACTED]

A. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Q. [REDACTED]

[REDACTED]

A. [REDACTED]

[REDACTED]

[REDACTED]

1 JUDGE BOLLWERK: So you're not objecting,  
2 though?

3 MR. TURK: Probably not.

4 It's a few minutes before six. May I inquire  
5 how long?

6 MS. CHANCELLOR: I'm almost done.

7 JUDGE BOLLWERK: All right. The question's  
8 been asked, and I don't know if you need to repeat it  
9 or he didn't hear it, or get it read back. He answered  
10 it, okay.

11 Q. [REDACTED]

12 [REDACTED]

13 A. [REDACTED]

14 Q. [REDACTED]

15 [REDACTED]

16 A. [REDACTED]

17 Q. [REDACTED]

18 [REDACTED]

19 A. [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 Q. [REDACTED]

23 [REDACTED]

24 [REDACTED]

25 [REDACTED]

1           A.    The earthquake design of the facility was  
2 part of the construction estimate.  So I guess I don't  
3 know exactly what you're asking.

4           Q.    Isn't it true that PFS has done an analysis  
5 that the PFS facility would withstand an earthquake  
6 that had a 2,000 year return period?

7           A.    By memory, I think you're correct.  I don't  
8 know with 100 percent certainty.

9           Q.    If PFS had to design a facility to withstand  
10 a deterministic earthquake or a worst case earthquake,  
11 wouldn't the cost, the construction cost increase for  
12 the facility?

13           MR. TURK:  Object to the form.

14           MR. SILBERG:  I would object because I think  
15 it goes beyond this witness's testimony.

16           MR. TURK:  Also the form is compound, Your  
17 Honor.  Deterministic and worse case earthquakes are  
18 the same question.  I'm not sure the worst case  
19 earthquake is, for that matter.  I don't know if it's a  
20 deterministic basis or not, but it's not necessarily  
21 the same thing.

22           MR. SILBERG:  I don't think this witness is  
23 put on the witness stand to address the engineering  
24 consequences and cost consequences of changes in the  
25 design of the facility.

1 MS. CHANCELLOR: I'm not asking Mr. Parkyn to  
2 come up with an absolute number to deal with the  
3 increased costs for the facility to withstand a  
4 deterministic earthquake. What I am asking him, is  
5 there any slack, is there any allocation of money that  
6 would go to an increased design because. For example,  
7 PFS may not be granted its exemption requests from med,  
8 from the NRC staff or the seismic contention.

9 MR. SILBERG: Is the question whether  
10 contingencies or for that purpose?

11 MS. CHANCELLOR: I'm asking him if there's  
12 any allocation in the PFS construction estimates that  
13 would allow for an increase in the design basis of the  
14 facility to withstand an earthquake that has ground  
15 motions based on the deterministic analysis. Is there  
16 slack in PFS's construction cost estimates that would  
17 allow PFS to increase the cost of the design basis of  
18 the facility, the systems, components, and structures  
19 that are important to safety?

20 A. [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 Q. [REDACTED]

24 [REDACTED]

25 [REDACTED]

1

2

A.

3

4

Q.

5

6

7

8

A. None that we anticipated, or we would have put them in there. So basically the contingency is there for things that were not contemplated, such as your suggestion that bids may come in higher.

9

10

11

12

Q. Or there may be change orders during the construction period?

13

14

A. I suppose it's possible.

15

16

Q. Isn't it typical that you'll have change orders during construction periods?

17

18

A. Usually there's a limited number of them, but that's presuming that the bids come in at 100 percent of what's specified here to start with.

19

20

Q. If you looked at the Stone and Webster contract that PFS has at the moment, aren't there a lot of change orders under the Stone and Webster contract to bring this facility on line?

21

22

23

A. You mean for the design of the facility?

24

Q. Right.

25

1           A.    Definitely, because the facility wasn't  
2 designed when the change order was made.

3           Q.    I'm curious, Mr. Parkyn.  There doesn't seem  
4 to be a line item in the construction cost estimate for  
5 the concrete batch plant.  Is that correct?

6           A.    I don't know.  I didn't deal with the on-site  
7 construction part of it.

8           Q.    Isn't it true that PFS will have a concrete  
9 batch plant located on site?

10          A.    Yes.

11          Q.    Do you consider that to be a construction  
12 cost?

13          A.    Well, I would consider it part of the cost of  
14 concrete, which is in construction estimate.

15          Q.    Do you know if anywhere on Exhibit E there's  
16 a cost for the concrete batch plant?

17               MR. SILBERG:  Mr. Chairman, I'd like to  
18 object to that question.  We went into this at some  
19 length in prior testimony with Mr. Gase and Mr. Takacs  
20 in which they testified that the cost of the concrete  
21 is in their estimates, and if there were a batch plant  
22 it would in fact cost less than the amount that they've  
23 estimated.  We talked about where the batch plant was  
24 in this context.  We're going over the same grounds  
25 again, except we're going over it with a witness whose

1 responsibility is not to address the concrete costs.

2 MS. CHANCELLOR: All I asked was does he know  
3 if there's a special -- a line item for the concrete  
4 batch planned.

5 MR. SILBERG: Asked and answered.

6 MS. CHANCELLOR: And the answer is?

7 MR. SILBERG: No.

8 MS. CHANCELLOR: Thank you. I have no  
9 further questions.

10 JUDGE BOLLWERK: All right. At this point,  
11 we said we'd break at six and we'll do that. And I  
12 guess we'll start in the morning with the staff  
13 cross-examination of Mr. Parkyn. Do you have an  
14 estimate of how long, approximately, you'll take?

15 MS. MARCO: Not long. Twenty minutes.

16 JUDGE BOLLWERK: Do you have any redirect?

17 MR. SILBERG: Limited.

18 JUDGE BOLLWERK: All right. Then we would  
19 move -- I guess the next would be to Mr. Parkyn and  
20 Kapitz. I have the schedule down.

21 MR. SILBERG: Right.

22 JUDGE BOLLWERK: All right. At this point,  
23 why don't we go ahead and adjourn, Mr. Parkyn. We'll  
24 dismiss you for the day and call you in the morning.

25 JUDGE BOLLWERK: Everyone, why don't we plan

1 on starting again at nine o'clock.

2 MR. SILBERG: What are we going to do after  
3 O&M?

4 JUDGE BOLLWERK: Why don't we talk about that  
5 right now. Let's have a brief discussion with counsel.

6 (Discussion off the record.)

7 (Proceedings adjourned at 6:05 p.m.)

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REPORTER'S CERTIFICATE

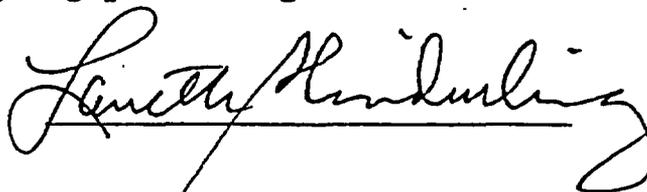
This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

NAME OF PROCEEDING: PRIVATE FUEL STORAGE

CASE NO: 72-22-ISFSI

PLACE OF PROCEEDING: salt Lake City, Utah

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.



Official Reporter

Ann Riley & Associates, Ltd.

**Pursuant to a joint agreement among the parties, Sheets 1 through 24 of the Word Index to the June 20, 2000 Transcript have been redacted in their entirety.**