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1 UNITED STATES OF AMERICA

2 NUCLEAR REGULATORY COMMISSION

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4 In the Matter of:) Docket No. 72-22
PRIVATE FUEL STORAGE,) ASLBP No. 97-732-02-ISFSI
5 L.L.C.)
(Independent Spent Fuel)
6 Storage Installation))
)
7)

COPY

U.S. Nuclear Regulatory Commission
8 Sheraton Hotel

9 150 West 500 South, Wasatch Room

10 Salt Lake City, Utah 84101

11 Thursday, June 22, 2000

12 The above-entitled matter came on for hearing,

13 pursuant to notice, at 9:40 a.m.

14 BEFORE:

15 THE HONORABLE G. PAUL BOLLWERK, III

16 Administrative Judge

17 Atomic Safety & Licensing board Panel

DOCKETED
USNRC

August 8, 2005 (1:00pm)

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

18

19 DR. JERRY R. KLINE

20 Administrative Judge

21 Atomic Safety & Licensing board Panel

22

23 DR. PETER S. LAM

24 Administrative Judge

25 Atomic Safety & Licensing board Panel

Template = SECY-032

SECY-02

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6

7 **I N D E X**

8 **WITNESS** **PAGE**

9 **MICHAEL F. SHEEHAN**

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10 Cross-Examination by Mr. Silberg _____ 2201
Cross-Examination by Ms. Marco_____ 2371
11 Redirect Examination by Ms. Chancellor __ 2379
Recross-Examination by Mr. Silberg _____ 2404
12 Recross-Examination by Ms. Marco _____ 2404
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13

E X H I B I T S

14 **EXHIBIT NO.** **MRKD** **RCVD**

15 State's Exhibit 9 - Resume/Sheehan _____ 2192 2191

16

State's Exhibit 10 - Private Fuel Storage
17 Facility License Application, LA
Chapter 1, Revision 6, Page 1-5 _____ 2193 2193

18

19 State's Exhibit 11 - License Application,
LA Chapter 1, Section 1-6 _____ 2194 2194

20

21 State's Exhibit 12 - Private Fuel Storage
Facility Environmental Report, ER Chapter 3,
22 Revision 2, Page 3.2-1 _____ 2200 2200

23

State's Exhibit 13 - License Application -
24 Financial _____ 2200 2200

25

State's Exhibit 15 - PFS, LLC - Business Plan	2200	2200
State's Exhibit 17 - PFSF Transportation Study, 1998	2200	2200
State's Exhibit 18 - Memo to Carl Thomason from Stan Macie, 7/11/96	2200	2200
State's Exhibit 19 - PFSF General Project Description, Planned Construction Schedule and Proposed Environmental Permitting Needs, Draft, 2/9/99	2200	2200
State's Exhibit 22 - Verified Statement of John D. Parkyn before the STB	2200	2200
State's Exhibit 23 - PFS Confidential Finance Committee Information, 11/25/96	2200	2200
State's Exhibit 24 - License Application, LA Chapter 1, Section 1-6	2200	2200
State's Exhibit 25 - Real Estate Purchase Agreement	2200	2200
State's Exhibit 26 - Dry Transfer System, Topical Safety Analysis Report, Volume I, 9/30/96	2200	2200
State's Exhibit 27 - Amended and Restated Business Lease, 5/20/97	2200	2200
State's Exhibit 29 - Telephone Deposition of Hanson Pickerl, 5/5/00	2200	2200
State's Exhibit 30 - Letter to Wentz from Reamer, 6/29/95	2200	2200

1 P R O C E E D I N G S

2

3 JUDGE BOLLWERK: On the record. Good
4 morning. We're here for the continuation of the Private
5 Fuel evidentiary hearing. This morning we're going to
6 be dealing with Mr. Sheehan's testimony on behalf of the
7 state regarding Utah Contention E/Confederated Tribes F.
8 Before we get started with Mr. Sheehan, is
9 there any administrative matters that anybody needs to
10 bring to the Board's attention?
11 All right. I have one matter. I understand
12 that today is Mr. Silberg's 25th anniversary and we're
13 certainly glad -- I guess we're glad to have you here.
14 We're sad you're probably not where you should be or
15 where your wife thinks you should be. But
16 congratulations to you, sir, and we appreciate your
17 presence today so that we can move forward. Twenty-five
18 years is a long time.
19 MR. SILBERG: It is. Mr. Gaukler was nice
20 enough to bring out my wife's anniversary present and
21 leave in our conference room at 7:00 a.m.
22 JUDGE BOLLWERK: Congratulations to your
23 spouse as well.
24 All right. Anything else?
25 I guess Mr. Turk must have made his plane

1 because I don't see him here. He still may be at this
2 time sitting out at the airport.
3 I guess we're ready to move forward with Mr.
4 Sheehan.
5 MS. CURRAN: Dr. Sheehan.
6 JUDGE BOLLWERK: Dr. Sheehan. Dr. Sheehan,
7 will you raise your right hand, please.
8 DR. SHEEHAN: I do.
9 JUDGE BOLLWERK: Sir, is the testimony you're
10 going to give in this proceeding the truth, the whole
11 truth, and nothing but the truth?
12 DR. SHEEHAN: It is.
13 JUDGE BOLLWERK: The witness has been sworn
14 and we're ready then to proceed.
15 MS. CHANCELLOR: May I approach the witness,
16 Your Honor? I'm going to give the witness a copy of his
17 testimony, a copy of the list of the State Exhibits and
18 a copy of the Exhibits that are attached to Dr.
19 Sheehan's testimony, Exhibits 9 through 30.
20 JUDGE BOLLWERK: Dr. Sheehan, let me swear you
21 in again because I was thinking about what I said and I
22 didn't like it.
23 Dr. Sheehan, do you swear that the testimony
24 you will give in this proceeding will be the truth, the
25 whole truth and nothing but the truth?

1 DR. SHEEHAN: I do.
2 JUDGE BOLLWERK: It's probably not necessary,
3 but who knows.
4 MICHAEL F. SHEEHAN
5 called as a witness, being first duly sworn, was
6 examined and testified as follows:
7
8 MS. CHANCELLOR: I'm giving the reporter a
9 copy of Dr. Sheehan's testimony as well as three copies
10 of the Exhibits.
11 DIRECT EXAMINATION
12 BY MS. CHANCELLOR:
13 Q. Dr. Sheehan, you have before you a copy of
14 your prefiled testimony dated June 14, 2000, Prefiled
15 Testimony, Revised Per Board Order June 12, 2000,
16 correct?
17 A. Yes.
18 Q. And this testimony consists of 54 pages; is
19 that correct?
20 A. Yes.
21 Q. And was this testimony prepared by you or on
22 your behalf under your supervision?
23 A. Yes, it was.
24 Q. Do you have any corrections or clarifications
25 you wish to make to this testimony?

~~MAY CONTAIN PROPRIETARY INFORMATION~~

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	)	Docket No. 72-22-ISFSI
PRIVATE FUEL STORAGE, LLC (Independent Spent Fuel Storage Installation)	)	ASLBP No. 97-732-02-ISFSI
	)	June 14, 2000

PREFILED TESTIMONY OF MICHAEL F. SHEEHAN, Ph.D. ON BEHALF OF THE STATE OF UTAH REGARDING CONTENTION UTAH E

(Revised per Board Order of June 12, 2000)

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~~MAY CONTAIN PROPRIETARY INFORMATION~~

I. INTRODUCTION

A. NAME, QUALIFICATIONS, AND AFFILIATION

Q. 1. Please state your name and address for the record.

A. 1. My name is Michael F. Sheehan. My address is 33126 Callahan Road, Scappoose, Oregon 97056.

Q. 2 By whom are you employed?

A. 2. I am a partner in the firm of Osterberg & Sheehan, Public Utility Economists, of Scappoose, Oregon and Mount Vernon, Iowa.

Q. 3. Please describe your professional background.

A. 3. I hold B.S., M.A. and Ph.D. degrees in economics from the University of California at Riverside. I have taught project analysis, quantitative economics, and operations research, as well as basic, intermediate, and graduate courses in economic theory and policy at the Graduate School of Administration at the University of California at Riverside; at California State College, San Bernardino; and in the Graduate Program at Chapman College. In 1979 I was hired into the Graduate Program in Urban and Regional Planning at the University of Iowa, where I taught courses in environmental policy and planning, public utility policy and planning, planning economics, local energy planning, and state and local development finance. I have also published a substantial number of articles in scholarly journals and a number of chapters in books.

A copy of my curriculum vitae is included as Exhibit 9. That document further describes my education and experience and lists my publications. I also discussed my professional qualifications and experience in some detail relative to the issues in this case in my May 4, 2000 deposition, pages 11 through 65.

Q. 4. Please describe your background on issues related to finance, cost review and project evaluation.

A. 4. Much of my practice over the last twenty years has been involved with planning and

project budget and finance analysis. Specifically, I have worked on utility rate cases; municipal valuation cases and projects; local and regional regulation of solid waste operations including rate setting; determination and evaluation of prevailing wage rates on public projects; financial studies in support of municipal collective bargaining; financial analysis with respect to fund balances and reserves at METRO (the three county planning agency for the Portland, Oregon region); financial qualification issues in Louisiana Energy Services (Claiborne Enrichment Center), Docket No. 70-3070-ML, and in Hydro Resources, Inc. (2929 Coors Road Suite 101 Albuquerque, New Mexico 87120), Docket No. 40-8968-ML, before the Nuclear Regulatory Commission. I have worked on issues relative to geothermal development in California, surface mining in Oregon, uranium mining in New Mexico, and high and low level radioactive waste issues in the west and midwest. I have also taught development finance, and environmental and utility planning at the University of Iowa at the graduate level, with emphasis on utility planning and ratemaking.

Many of these proceedings are described in greater detail in my May 4, 2000 deposition, pages 11 through 65.

Q. 5. Have you previously testified on issues related to finance or project planning?

A. 5. Yes. I have testified before the Indiana Commission in a number of Causes dealing with incentives, utility planning, valuation, and rate of return. I have testified before the Oregon Commission on utility planning, rate design and cost allocation; before the Kentucky Commission on cost of service, rate design, credit and service, and conservation related issues. Before the Iowa Commission I have presented testimony on rate of return, rate design, excess capacity, issues involving municipalization, utility franchises, and utility planning in a series of electric, natural gas, and telephone cases; before the Massachusetts Department of Public Utilities testimony on utility planning and rate design issues in the area of demand-side management and least cost planning; before the South Dakota Commission testimony on rate design and utility planning; before the New York Commission testimony on avoided costs in the allocation of preference power; and before the Wisconsin Commission testimony on rate of return. I have testified before the Alaska Commission on investment planning in telecommunications, cross-subsidization, rate design, and the problems of the communications handicapped; before the Texas commission on economic development rates; and before the Hawaii commission on rate design and low-income conservation programs. In addition, I have testified before the Illinois Commission on utility planning issues in the nuclear context; and I have appeared before committees of the

Nebraska, Missouri, Iowa, and Washington legislatures on various aspects of utility regulation and energy management, and valuation of service territories. I have presented testimony before the NRC on financial assurance and related issues in the Hydro Resources, Inc. case now pending before the Commission. I have been involved for the last several years in the evaluation of wage rates on state and local construction projects in Oregon under Oregon's prevailing wage statute and I am the co-author of a volume on that subject to be published this summer.

Many of these proceedings are described in greater detail in my May 4, 2000 deposition, pages 11 through 65.

Q. 6. Have you examined project planning issues in other contexts?

A. 6. Yes, I have also provided services on contract to the Vermont Commission staff on utility planning issues, to the Nebraska Energy Office, and to the Iowa Energy Policy Council in the areas of local energy planning and the relationship of energy pricing to local economic development. I have served on the Rate Advisory Committee and the Resource Acquisition Council of the Columbia River PUD, the Research Advisory Committee of NRRI and the National Consumer Advisory Panel to AT&T. I have been economic consultant on issues related to municipal solid waste disposal to METRO, and I am the chair of the Solid Waste Advisory Committee for Columbia County, Oregon with responsibilities in the rate regulation of solid waste transfer stations and collectors. I have worked on costing and valuation issues for various cities and organizations, and I have consulted on issues related to radioactive materials in the low level waste context, the Louisiana Energy Services case, and in other proceedings.

Many of these matters are described in greater detail in my May 4, 2000 deposition, pages 11 through 65.

Q. 7. Please describe your background on issues related to operating costs.

A. 7. Much of the work described above in response to the three previous questions involved evaluation of operating costs of one sort or another. Operating costs have been an issue in many of the utility rate cases I've worked on; the solid waste disposal cases and projects have involved the review and evaluation of both capital and operating costs. My rent control cases, chapter 11 cramdown cases, and a number of the damages cases I have

been employed on have involved an analysis of capital and/or operating costs.

Q. 8. Please describe your background on issues related to the use of escalation factors for the adjustment of costs over time.

A. 8. I have been employed for several years on the design and evaluation of methods for the determination of labor costs over time for public works projects associated with Oregon's prevailing wage statute; I am also familiar with the federal system with respect to the Davis-Bacon Act. My work on municipal collective bargaining cases often involved escalation factors for labor costs. My damages work often involves estimating future benefits or losses. Some of my work on utility cases has involved the issue of demand estimation.

Q. 9. Please describe your background on issues related to insurance and risk.

A. 9. I have written a number of articles on topics involving environmental risk and public policy. I have spent a year working on damage functions and risk related issues in the forest fire context for the UCR-USDA Forest Fire Lab. My teaching of the environmental policy and planning courses in the Graduate Program in Urban and Regional Planning at the University of Iowa dealt in large measure with risk management. I am familiar with the Price-Anderson Act and I have been working for the last year on an article involving how changes in the industry interact with coverage under that Act, especially with respect to ISFSIs and transportation.

B. PURPOSE OF TESTIMONY AND DOCUMENTS REVIEWED

Q. 10. What is the purpose of your testimony?

A. 10. The purpose of my testimony is to (1) evaluate the reasonableness of Applicant's construction costs for the PFS facility (Contention E, Basis 6); (2) evaluate the reasonableness of Applicant's operating and maintenance costs (Contention E, Basis 6); and (3) evaluate the availability and reasonableness of Applicant's on-site insurance coverage (Contention E, part of Bases 5 and 10). In my professional opinion, the Applicant has not provided reasonable construction cost estimates and operating and maintenance cost estimates primarily due to omissions, uncertainties and unsupported assumptions. Furthermore, the Applicant has not shown that it may obtain on-site insurance coverage

sufficient to protect public health, safety and the environment.

Q. 11. In general, what documents have you reviewed with respect to Contention E, bases 5, 6, and 10?

A. 11. In addition to my general familiarity with the Private Fuel Storage case, I have specifically reviewed the PFS's License Application and applicable portions of the Environmental Report in this proceeding. I am familiar with and have reviewed the documents that PFS has provided to the State of Utah concerning Utah Contention E, PFS's responses to discovery requests submitted by the State, and PFS's responses to the NRC Staff's Requests for Additional Information ("RAIs"). I am familiar with Chapter 17 of the Safety Evaluation Report for Systems Not Directly Associated with Storage Casks ("SER") dated December 15, 1999, as well as SER Chapter 17 reissued January 4, 2000; and the NRC Staff's Statement of Its Position Concerning Group I-II Contentions dated December 15, 1999. I have reviewed the materials filed by the State, PFS, and NRC Staff with respect to PFS's Motion for Partial Summary Disposition of Contention Utah E, including briefs filed with the Commission. I am also familiar with the Licensing Board's decision with respect to PFS's motion for Partial Summary Disposition of Contention Utah E. I have taken these documents and pleadings into account in formulating my testimony.

C. PROCEDURAL HISTORY

Q. 12. Briefly explain the procedural history of Contention E.

A. 12. I am familiar with the procedural history of Contention E and I have taken it into account in formulating my testimony. On April 22, 1998, the Licensing Board admitted Contention Utah E/Castle Rock 7/Confederated Tribes F ("Contention Utah E"). *See* LBP-98-7, 47 NRC 142, 251-252 (App. A). In general Contention Utah E alleged that contrary to the requirements of 10 C.F.R. §§ 72.22(e) and 72.40(a)(6), the Applicant has failed to demonstrate that it is financially qualified to engage in the Part 72 activities for which it seeks a license. The contention then listed ten bases in which the Applicant had failed to show that it either possesses the necessary funds, or has reasonable assurance of obtaining the necessary funds to cover the estimated construction costs, estimated operating costs, and estimated decommissioning costs.

On December 3, 1999, PFS filed a Partial Motion for Summary Disposition of

Contention E, Bases 1 through 5, and 7 through 10. In general, Bases 1 through 5, and 7 through 10 relate to PFS's ability to obtain the necessary funds. The Motion was based on PFS's commitments not to commence construction or operation until it had sufficient commitments for funds.

On December 15, 1999 the Staff issued its position with respect to Contention E. In Chapter 17 of the Safety Evaluation Report for Systems Not Directly Associated with Storage Casks, dated December 15, 1999, the Staff determined that, in conjunction with two license conditions proposed by the Staff, PFS had provided reasonable assurance of its financial qualifications to construct, operate, and decommission the ISFSI in accordance with 10 CFR Part 72. However, on January 4, 2000, the Staff recalled and reissued the SER Chapter 17 with different proposed license conditions. In the reissued SER, the Staff retained its position that PFS had provided reasonable assurance of its financial qualifications.

On March 10, 2000, the Licensing Board granted in part and denied in part PFS's Motion for Partial Summary Disposition of Contention E. The Licensing Board based its decision on the two license conditions proposed in the Staff's December 15, 1999 SER, revised and reissued January 4, 2000, and certain proposed commitments by PFS relating to its customer service agreements provisions that were not in evidence before the Board. The Board found that offsite property insurance in an amount of $200 million was no longer at issue in Contention E. Thus, the issues remaining for hearing are the amount of onsite property insurance (part of Bases 5 and 10) and the estimated costs of constructing the proposed ISFSI and estimated costs of operating and maintaining the proposed ISFSI (Basis 6).

D. NRC REGULATIONS AND PROPOSED LICENSE CONDITIONS

Q. 13. Are you familiar with NRC regulations relating to financial assurance, and if so, what do they require?

A. 13. Yes. The regulations are 10 CFR §§ 72.22(e) and 72.40(a)(6) and I have taken them into account in formulating my testimony. Section 72.22(e) requires that an applicant either possess the necessary funds or has reasonable assurance of obtaining the necessary funds for estimated construction costs and estimated operating costs over the planned life of the facility. Under section 72.40(a)(6), the Commission may only issue a license to an ISFSI

applicant if the Commission makes a finding that the Applicant is financially qualified to engage in the proposed activities in accordance with Part 72.

Q. 14. Are you familiar with the Staff's proposed license conditions, and if so, what do they require?

A. 14. Yes, the license conditions, LC 17-1 and LC 17-2 are set out in the SER, revised and reissued January 4, 2000, and state as follows:

> LC17-1 states: Construction of the Facility shall not commence before funding (equity, revenue, and debt is fully committed that is adequate to construct a facility with the initial capacity as specified by PFS to the NRC [redacted]. Construction of any additional capacity beyond this initial capacity amount shall commence only after funding is fully committed that is adequate to construct such additional capacity.
>
> LC17-2 states: PFS shall not proceed with the Facility's operation unless it has in place long-term Service Agreements with prices sufficient to cover the operating, maintenance, and decommissioning costs of the Facility, for the entire term of the Service Agreements.

II. OVERVIEW OF ANALYSIS OF COSTS

Q. 15. Did you review PFS construction and operation cost estimates and if so how did you conduct your analysis?

---

1 [redacted]

A. 15. I have reviewed PFS's construction and operating cost estimates. To summarize, I sought to determine in my analysis the following: whether PFS appropriately defined the scope of the project; whether PFS included all relevant costs at least on a contingent basis; whether there was any indication of an improper shifting of costs to other entities; whether major cost elements were sufficiently disaggregated to allow a reasonable review; whether the data and assumptions underlying the cost estimates were explicit and reasonable; and whether the timing of the project would bring timely cost estimates based on timely data, together with timely funding and timely construction.

Moreover, in my review I took into account that the reason for establishing cost estimates now is to establish estimates that may be used to determine whether the Applicant can satisfy LC17-1 and 17-2.

Q. 16. Is there a correlation between the license conditions LC17-1 and LC 17-2 and the way in which construction cost estimates and operation and maintenance costs estimates must be established?

A. 16. The Licensing Board in LBP-00-06 and the Staff in the revised and reissued SER rely upon the proposed license condition as the predicate for PFS's reasonable assurance that it would obtain funds to cover the estimated costs of construction, operation and maintenance as required by 10 CFR § 72.22(e). The cost estimates at issue in this hearing must, therefore, be evaluated in the context of and considered in harmony with the license conditions.

In my opinion, there are certain underlying premises that must be met before cost estimates may be considered "firm" or "hard" such that the license conditions may be evaluated against them. The Applicant must describe the scope and timing of construction and operation with specificity and show that there is now bona fide cost data underlying the cost estimates. This involves four aspects:

1. There must be a high degree of specificity as to the scope of the project (e.g., whether the Applicant will use the Low rail corridor, the intermodal transfer facility ("ITF"), or both the rail corridor and ITF to bring spent nuclear fuel ("SNF") to the site);
2. The data underlying the estimates must be current;
3. The means of estimating costs should not be generic or based on geographically aggregated averages; it should be specific to the location where the service or

product is to be generated; and

4. There should be no more than a short window of time from the date of the data underlying the cost estimates to the date of actual construction or operation. Otherwise, as costs change over time, meeting the test of the license conditions based on out of date cost estimates will not ensure that funding will cover actual costs as mandated by 72.22(e).

Q. 17. Please provide a brief overview of the outcome of your analysis.

A. 17. Briefly, my major conclusions are as follows: PFS has not provided a "hard cost estimate" for any specific project definition. There are at this late date a superfluity of scenarios and uncertainties as to project definition. There are a substantial number of significant cost elements that have not been included in PFS's various estimate renditions. Many other cost elements have been estimated, but the assumptions underlying the estimates are unspecified, so it is difficult to know whether the estimates correspond with what PFS plans to do when it comes in to satisfy the license conditions. To the extent that PFS is unwilling to say when it will construct and what the scope and scale of facilities will be, it follows that it will be difficult to produce a "hard cost estimate" given such a lack of project definition. The estimates produced in the various PFS documents are often substantially at odds with one another. The date of the data supporting the estimates is almost universally not specified; the sources of the estimates are not presented; and even the years dollars of the estimates is rarely provided.

III. CONSTRUCTION COSTS

A. CONSTRUCTION COST DOCUMENTS AND DATA

Q. 18. Have you reviewed the Applicant's license application, and if so, what sections of the license application address construction cost estimates?

A. 18. Yes, I have reviewed the license application but it contains next to no detail on construction cost estimates. License Application ("LA"), Rev. 6, p. 1-5 merely states that the budget for the construction phase is $100 million. *See* State's Exhibit 10, excerpts from PFS LA. Additionally, PFS's May 19, 1998 proprietary response to NRC's request for additional information, Question 1-3, (State's Exhibit 11) provided gross construction cost estimates

for a 15,000 MTU facility and a 40,000 MTU facility. Presumably the RAI response estimates were not incorporated into the License Application because PFS claims the information is proprietary.

The Environmental Report ("ER"), pp. 3.2-1 through 3.2-7, describes facility construction. *See* State's Exhibit 12, excerpts from PFS ER. Although the ER does not contain any construction cost estimates, the general construction information described is relevant to determining actual costs.

Q. 19. Have you reviewed other documents that contain PFS's construction cost estimates?

A. 19. Yes. There are a significant number of documents that may reference the Applicant's cost estimates, especially documents produced by PFS to the State during discovery. Of these documents there are what I would term "primary documents," such as the PFS Business Plan, that contain cost estimates. My analysis focused mostly on these primary documents and is described in greater detail below.

Q. 20. Other than the License Application, Environmental Report, and RAI responses, what other primary documents contain PFS's construction cost estimates?

A. 20. PFS's 1997 Business Plan, PFS's 1998 Business Plan, PFS's 1998 Transportation Plan, PFS's Storage Facility/Railroad Preliminary Construction Cost Estimate (April 17, 2000), and PFS's Storage Facility/Railroad Preliminary Construction Cost Estimate (April 26, 2000).

Q. 21. Please provide an overview of the differences between the License Application, Environmental Report, RAI response, and other primary documents and the bases used by PFS for its cost estimates.

A. 21. License Application. The LA provides a generic description of construction activities and categories included in the construction phase budget. The LA (at 1-5) (Exh. 10) refers to a $100 million budget for PFS's construction phase but does not provide an explanation of how the amount was derived or on what storage capacity it is based.

Environmental Report. Environmental Report, p. 3.2-2 (Exh. 12) states that the facility will be built in three phases where the phase one capacity is a quarter of the total number of storage pads (or 10,000 MTUs), phase two capacity is the pads in the SW quadrant (or 10,000 MTUs), and phase three capacity is pads in the northern half (or 20,000 MTUs).

PFS RAI Response. PFS's May 19, 1998 response to RAI, Question 1-3 (Exh. 11) includes two construction cost estimate scenarios, one for a 15,000 MTU facility and a second for a 40,000 MTU facility. The RAI response breaks down cost estimates by building, access road, site canister transfer equipment, offsite rail line or intermodal shipping facility and equipment, and transportation equipment and at reactor site handling equipment.

PFS's May 19, 1998 RAI response is ambiguous as to the size and phases of the facility. The RAI response states that the 15,000 MTU facility scenario will be built in two phases, [redacted] The RAI response also states that the 40,000 MTU facility scenario will be built [redacted] The number of phases and capacity per phase is not clearly defined and in part, contradicts the Environmental Report.

The May 19, 1998 RAI response specifies a phase one total construction estimate for the 15,000 MTU facility as [redacted] which includes [redacted] for off-site rail line or intermodal shipping facility and equipment. However, in a February 10, 1999 proprietary RAI response, RAI No. 2, LA 1-3 (*see* State's Exhibit 13), PFS acknowledged that although the May 19, 1998 RAI response indicates [redacted] for offsite rail line, the bounding estimate of the rail alternatives range from [redacted] for the rail line.

Business Plans. PFS's 1997 and 1998 Business Plans include three cost estimate scenarios for a 10,000 MTU - 20 year facility, a [redacted] - 40 year facility, and a 40,000 MTU - 40 year facility. According to Mr. Parkyn, the 1998 Business Plan merely updates canister costs from the 1997 Business Plan. Parkyn Tr. at 63-64 (*see* State's Exhibit 14, Deposition Transcript of John D. Parkyn). Construction cost estimates are included in capitalized costs. Construction cost estimates for the 10,000 MTU [redacted] 10,000 MTU facility and storage pad costs of [redacted] for a [redacted] facility. *See* State's Exhibit 15, PFS June 1998 Business Plan at PFS-5205-5208, 5427-5431. It is

extremely unlikely both estimates can be correct. The 40,000 MTU scenario increased cost estimates over the 10,000 MTU scenario for storage pads, intrusion detection, CCTV, environmental monitoring, and rail transportation casks. *See* Exh. 15 at PFS-5205-5208, 5330-5334, and 5427-5431. The 1998 Business Plan's 10,000 MTU 20-year scenario corresponding most closely to LC-17-1's 10,000 MTU minimum size scenario provides an estimate for "capitalized costs" of [redacted] *See* Exh. 15 at PFS-5431.

PFS Preliminary Construction Cost Estimate: PFS's April 26, 2000 proprietary *Preliminary Construction Cost Estimate* ("PCCE") (State's Exhibit 16) mostly provides construction cost estimates based on estimates of material and labor. The April 26, 2000 "Phase I" construction cost estimate (apparently for about 10,000 MTU) is [redacted] million, including [redacted] for the rail line; [redacted] for phase two, approximately 10,000 MTU additional capacity facility; and [redacted] for phase three, 20,000 MTU additional capacity facility. This is a total construction cost estimate of [redacted] for a 40,000 MTU facility. *See* Exh. 16. The line items in the PCCE-I do not correspond with the line items in PFS's Business Plan. The inconsistency in line items makes it difficult to compare cost estimates.

PFS Transportation Plan. PFS's 1998 Transportation Plan (*see* excerpts in State's Exhibit 17) identified construction cost estimates for various transportation alternatives, including the Low rail spur and the intermodal transfer facility 1.8 miles west of Timpie. The Transportation Plan estimated capital costs for the intermodal transfer facility 1.8 miles west of Timpie, in 1998 dollars, as [redacted] (PFS-02815) and for the Low rail line, in 1998 dollars, as [redacted] (PFS-02855). The capital cost estimates for the intermodal transfer facility included [redacted] to improve Skull Valley Road. *See* State's Exhibit 18, July 11, 1996 interoffice correspondence from Stan Macie, Stone & Webster Engineering Corp., PFS's license application contractors, with attached cost estimates prepared by Carder Concrete Products. (PFS-00032)

Q. 22. What is your understanding of the documents the staff relied on for its construction costs review?

A. 22. The Staff issued its assessment of financial assurance and decommissioning funding in the reissued SER (January 4, 2000). The construction cost estimate of $92 million specified in the SER (SER at 17-3) was apparently derived from PFS's May 19, 1998 RAI response for a 15,000 MTU facility (*see* Exh. 11). PFS's May 19, 1998 RAI response also

specified a total construction cost estimate of [redacted] for a 40,000 MTU facility, which was presumably derived using the same assumptions as the $92 million estimate. The $92 million construction cost estimate stated in the SER does not correlate with either the [redacted] initial capacity referenced in LC17-1 or the maximum licensed capacity of 40,000 MTUs. Neither the SER nor the Staff's Position mentions any construction costs for a storage capacity beyond 15,000 MTUs. In addition, the Staff does not indicate how additional storage capacity construction cost estimates will be determined in the context of LC17-1.

Finally, the May 19, 1998 RAI response total construction cost estimate of [redacted] grossly underestimates PFS's recent total construction cost estimate of [redacted] *See* Exh. 16 at p. 7. PFS's April 26, 2000 construction cost estimates for an approximately 10,000 MTU facility is [redacted] Id. at 5, PFS bates number 53394 (State's bates number 35673). Thus, the SER's $92 million construction cost estimate for a 15,000 MTU facility is significantly lower than PFS [redacted] current cost estimate for a 10,000 MTU facility. It is obvious that the SER is grossly deficient in it analysis of PFS's construction costs.

B. HOW I CONDUCTED MY REVIEW

Q. 23. How did you conduct your review of PFS's construction cost estimates?

A. 23. I conducted my review of PFS documents by looking for the following:

1. Scope of Construction Costs: a description of what PFS or the Staff maintain should be included within the scope of estimated construction costs and whether PFS has defined the scope of estimated construction costs in the context of license condition LC17-1. One important issue in this part of this proceeding is to determine if PFS has provided a "hard construction cost estimate" as the foundation for a determination of whether PFS can meet license condition LC17-1. The scope of construction costs will determine the adequacy of construction cost estimates and identify whether PFS has omitted significant and relevant costs.

2. Defined Construction Plan: a complete description of construction activities, equipment, and structures, including identifying major uncertainties with respect to construction alternatives and whether the uncertainties are addressed explicitly as contingent

estimates. Identifying construction activities, structures, and alternatives is critical to estimating complete and accurate construction costs.

3. Division of Construction Costs: a firm description of the total costs of construction and the primary responsible entities, including PFS, any subsidiaries, or PFS customers. It is important to understand what costs are PFS's primary responsibility in order to assess whether PFS's construction costs estimates encompass all significant costs.

4. Disaggregation and Explanation of Major Cost Elements: firmly justified and consistent cost estimates at a level of disaggregation such that major cost problems were not hidden in aggregate figures and a reviewer could understand how the costs were derived. Cost estimates must be broken down and the supported in order to evaluate the accuracy of the cost estimates.

5. Missing Construction Costs: whether all apparent construction costs in all estimates have been included, such as the detention pond, the Probable Maximum Flood barrier, ambulance, fire response vehicles, security vehicles, and host benefits during construction. The identification of any significant missing costs are important to ensure accurate cost estimates.

6. Timing Uncertainty: a firm date for initial and subsequent construction with contemporaneous cost estimates at the time of construction or at least cost estimates near n time with an explicit escalator mechanism adequate to produce a valid cost estimate at the time of construction.

7. Financing Plan: a firm financing plan for the construction that would estimate the up-front costs of financing. Up-front debt financing costs could be significant and impact the overall construction costs.

8. Demand Timing: a reasonable estimate of storage demand over time. Understanding estimated demand is important to the extent that the magnitude and timing of demand will have a significant impact on the cost and timing of construction.

After reviewing the data available, I evaluated whether the estimated construction costs included all relevant costs; whether the costs were supported by reasonable assumptions; whether the costs accounted for uncertainties; whether PFS had included

appropriate escalation mechanisms to ensure sufficient funds are available at the actual time of construction; and whether the cost estimates could be applied in the context of license condition LC17-1.

C. RESULTS OF REVIEW

1. SCOPE OF CONSTRUCTION COSTS

Q. 24. In your opinion, is there enough specificity in the scope of PFS's estimated construction costs to consider those costs to be hard or firm cost estimates?

A. 24. As I testified earlier, firm or hard construction cost estimates are required, with bona fide cost underlying data. As a general matter, and as more fully explained below, my review found that PFS's construction cost estimates are riddled with inconsistencies; important categories are not broken down, making it is impossible to know what is included in the category; and some costs documents list items that are not included in other documents, making it impossible to compare costs across various documents. Moreover, the Staff's position is of no assistance because the Staff did not specify in the SER or the Staff's Position what it considers to be encompassed in the scope of estimated construction costs.

2. DEFINED CONSTRUCTION PLAN

Q. 25. Has PFS provided a well defined plan for what is to be constructed, including identifying the structures, equipment, and activities included in construction cost estimates?

A. 25. Again, it has not. There is no consistent description of what structures and equipment will be needed for construction or what activities will occur during construction. Moreover, major planning choices with a substantial impact on the magnitude of the resources necessary to meet the criterion in the first license condition have not been made and are still uncertain. For example, the choice between building the Low Corridor railroad or the intermodal transfer facility ("ITF") has not been made. PFS's Environmental Report, however, implies both the intermodal transfer facility and the rail line will be constructed. *See* Exh. 12, ER Rev. 2 at 3.2-2. Additionally, a PFS draft document, *Private Fuel Storage Facility General Project Description, Planned Construction Schedule and Proposed Environmental Permitting Needs*, apparently used in a February 1999 meeting (State's Exhibit 19), states that

both the Low Corridor railroad and the ITF with associated road improvements are to be constructed. PFS-30851. Combined construction cost of both projects could reach [redacted] depending on which PFS cost estimates are used. Id.

Even if only one transportation alternative is used, the alternative selected will impact the overall cost estimates because the difference in capital cost between the two options is probably substantial. I say probably because capital cost estimates in the 1998 Transportation Plan are [redacted] for Low and [redacted] for ITF Option IT-3. *See* above discussion under my answer to Q. 20. However, in the May 19, 1998 RAI response, PFS estimates the construction costs of both the rail line and the ITF at [redacted] *See* Exh. 11. Later, in a February 10, 1999 RAI response PFS somewhat cryptically indicates that the [redacted] is "available" for the offsite rail line as if the money "available" is driving the estimating process. Exh. 13. There is a potential to cut corners and thereby affect overall safety when construction is limited to available funds instead of an estimate based on a safe design.

Q. 26. Have you identified other examples of uncertainties in defining the scope of construction which may significantly affect construction cost estimates?

A. 26. Yes. PFS's construction budget includes expenditures for heavy equipment used in loading fuel at reactors from spent fuel pools to canisters. Depending upon the configuration and size of a spent fuel pool, the fuel may be loaded into the canister in the pool itself or outside the pool using a dry transfer system. Parkyn Tr. at 40-42 (Exh. 14 Although PFS estimates costs for transfer casks and the dry transfer system in both the April 26, 2000 PCCE-I (Exh. 16 at PFS-35673) and the 1998 Business Plan (Exh. 15 at PFS-05430), there are a number of uncertainties related to those costs.

[redacted]

[redacted]

Next, although PFS assigns a cost estimate of [redacted] for two dry transfer systems, there are a number of uncertainties associated with the dry transfer system alone. The dry transfer system is apparently critical to PFS's operation because without this system, according to Mr. Parkyn, a number of reactors, including PFS member-reactors, would be unable to transfer fuel into the Holtec canisters. Additionally, Mr. Parkyn was uncertain whether the dry transfer system was licensed or certified. Exh.14, Parkyn Tr. at 42-43. This means that cost estimates are extremely rough, and more importantly, the dry transfer system reactor market may not be available to PFS or PFS may have to use a substitute technology if any exists. PFS fails to address these uncertainties.

Another uncertainty revolves around whether PFS will partially manufacture the Holtec HI-STORM storage casks. PFS's Environmental Report, p. 3.2-3 (Exh. 12), says "[a] portable, concrete batch plant will be located at the PFSF through the completion of Phase 3 to provide concrete for construction of the storage pads and casks." [redacted] However, contrary to the representations in the ER [redacted] in his deposition, Mr. Parkyn indicated that PFS will not manufacture the casks. Exh. 14, Parkyn Tr. at 21. Additionally, Mr. Parkyn was unsure whether concrete from PFS's batch plant could meet HI-STORM storage cask technical requirements. Id. at 34.

Storage casks are a major item in the overall costs of the PFS facility. And while PFS has accounted for storage cask costs in operating costs, in one respect the investment in capital equipment to manufacture the casks – as opposed to the cost of the casks themselves were they to be purchased ready to go from Holtec – might reasonably be seen as a construction cost. In the event the storage cask concrete portion of the storage casks is manufactured onsite, any requirements for a higher grade concrete batch plant would involve additional costs.

Q. 27. Are there other items that are uncertain?

A. 27. Yes. Another example of uncertainty involving substantial expenses relate to what rail equipment PFS will purchase. As described below, there are estimates contained in three different places: the1998 Business Plan, and the April 26, 2000 Preliminary Construction Costs estimates, Phase I and Phase II.

The 1998 Business Plan shows [redacted] or locomotive capital costs and an additional [redacted] (10,000 MTU or 12,800 MTU) or [redacted] (40,000 MTU) for transportation casks, railcars, impact limiters, and cradles. *See, e.g.*, Exh. 15 at PFS-05207, 05333, 05428, 05430. However, the 1998 Business Plan does not specify the number or unit costs.

PFS Preliminary Construction Cost Estimates, Phase I ("PCCE-I") lists Phase I costs for two mainline locomotives at [redacted] six cask cars/impact limiters/ transportation cask at [redacted] one security car at [redacted] two buffer cars at [redacted] one shortline locomotive at [redacted] and a [redacted] contingency. Exh. 16 at p. 5.

Preliminary Construction Cost Estimates Phase II ("PCCE-II") lists costs for what appears to be a second train (two mainline locomotives at [redacted] six cask cars/impact limiters/ transportation cask at [redacted] one security car at [redacted] two buffer cars at [redacted] one shortline locomotive at [redacted] and [redacted] contingency). Exh. 16 at p. 6.

Totals. The total rail equipment expenditures in the PCCE is [redacted] versus total rail equipment expenditures in PFS's 1998 Business Plan of [redacted] for a 10,000 [redacted] facility, or [redacted] for a 40,000 MTU facility.

Although, the various total rail estimates for a 40,000 MTU facility are within [redacted] of one another, there may be more substantial differences when the actual unit costs are carefully reviewed. For example, the 1998 Business Plan allocates [redacted] for locomotive capital costs. *See, e.g.*, Exh. 15 at PFS bates number 12318 (State's bates number 05428). The Business Plan does not specify the number of locomotives or whether the costs are for a mainline locomotive, shortline locomotive, or both. The total locomotive costs in the PCCE are [redacted] for four mainline locomotives and two shortline locomotives. Similarly, it is unclear whether the 1998 Business Plan accounted for security and buffer cars. Consequently, it is unknown whether the unit costs for transportation casks, railcars, impact limiters, and cradles are significantly higher in the 1998 Business Plan than in the April 26, 2000 estimate and if so why.

Q. 28. What does PFS say it will construct, what equipment will it acquire and what activities will take place during construction?

A. 28. First, it should be noted that PFS does not yet have a well-defined project. There are major choices, including timing and capacity of construction phases, that PFS has yet to resolve. Furthermore, PFS's construction plans are scattered across numerous documents. A compilation of these documents variously list construction to include canister transfer building, storage pads, the restricted area, including site work and security measures, water distribution, a sanitary system, detention pond, PMF flood barrier, access and perimeter roads, parking lot, security and health physics building, administration building, operations and maintenance building, the Low railroad or the intermodal transfer facility, expansion of Skull Valley Road, and a visitor center. The concern is that there is no defined plan or license condition that specifies what PFS must construct during the initial construction of the ISFSI project.

Furthermore, construction costs should include procurement of equipment, administrative costs, host benefits, personnel costs, licensing fees, construction phase insurance, and contingencies. The necessary equipment procured during the construction phase should at least include transport equipment (rail and heavy haul trucks), at-reactor fuel loading, transfer equipment, cranes, ambulance, fire trucks, security vehicles, cask hauler, building equipment, and the like.

At the very least, PFS should be required to present a well defined project or, alternatively, a license condition should specific the items listed in the above two paragraphs to be completed as part of the initial construction for the ISFSI project.

3. DIVISION OF CONSTRUCTION COSTS

Q. 29. Is the division of construction costs between PFS, PFS's owners, PFS subsidiaries, and prospective PFS customers a significant issue, and if so, why?

A. 29. Yes. What is at issue here is whether the Applicant, PFS, has presented a "hard construction cost estimate" for *its* construction costs. The problem arises when significant construction costs may be excluded from the current total through the mechanism of shifting those costs to other entities on paper. This is a particular concern in the area of

operating and maintenance ("O&M") costs, but there are issues in the construction cost area as well. It is directly relevant here with respect to PFS's ability to meet the construction cost license condition, LC17-1. If PFS is able to reduce its apparent construction costs by shifting costs to other entities on paper until after the license condition is "met," when in fact PFS remains fully responsible for construction costs, then the whole purpose of the license condition to ensure that PFS meets the 10 CFR 72.22(e) standard will to that extent be defeated.

Q. 30. Can you provide us with examples of where this problem might arise in the area of construction costs?

A. 30. Yes. On January 5th of this year the Great Salt Lake and Southern Railroad LLC ("GSLS") filed an application with the Surface Transportation Board for authority for "Construction and Operation" of a railroad in Tooele County, Utah. Parkyn's Statement accompanying the application states, "GSLS is here seeking authority from the Surface Transportation Board ("STB" or "Board") to construct and operate one of the two following projects: (1) a rail line approximately 32 miles in length (and associated sidings) between Low, Utah and the PFS Facility, or (2) a run-around track and sidings at a point approximately 1.8 miles west of Timpie, Utah, where GSLS would construct an Intermodal Transfer Point at which SNF shipping casks delivered via existing rail lines would be transferred to truck for movement for the facility." State's Exhibit 22, Verified Statement of John Parkyn before the STB, dated December 30, 1999 at pp.3-4.

The GSLS railroad is a separately incorporated entity with its own board of managers and with Mr. Parkyn as chairman and CEO. Id. at 5. Mr. Parkyn goes on to say that financing for the GSLS railroad construction will be financed "as part of the overall financing of the PFS Facility." Id. Thus, regardless of whether PFS or GSLS constructs the rail spur, PFS must be held responsible for the costs and the costs must be included in the construction cost estimates associated with LC17-1.

4. DISSAGREGATION AND EXPLANATION OF MAJOR COST ELEMENTS

Q. 31. Has PFS provided a reasonable disaggregation of major cost items in its estimates and enough explanation to allow a review of assumptions and a judgment on the reasonableness of the estimate?

A. 31. Frequently, an objective judgment of PFS's cost estimates cannot reasonable be made because costs are often aggregated across important sub-categorizes. Rarely are the assumptions underlying the estimates presented, and often the estimates appear to be simply "placeholders" awaiting firmer cost estimates.

As noted earlier, there are a number of documents in which PFS estimated construction costs. Almost all these estimates of construction costs vary substantially in the assumptions about storage capacity, storage period, the selected transportation alternative (either the intermodal transfer facility or the Low rail spur options or both), financing construction costs, etc. Yet even when it is possible to identify major cost scenarios with similar assumptions, there are differences in the major line item categories.

Furthermore, some of the major line item categories and assumptions are so generic it is impossible to determine what cost considerations PFS included in its estimate. Neither PFS's LA, May 19, 1998 RAI response, nor the 1997 and 1998 Business Plans break down the costs or provide sufficient explanations of assumptions to determine how the estimates were derived. Further, the inconsistencies, differences, and vagueness in assumptions and the major line item categories make it extremely difficult if not impossible to compare PFS's various construction cost estimates.

For example, PFS has provided estimates of "capitalized costs" in its 1998 Business Plan and "preliminary construction costs" in Phase I of its April 26, 2000 Preliminary Construction Cost Estimate. The Business Plan estimate for a 10,000 MTU facility is [redacted] while the PCCE-I estimate for a presumptive10,000 MTU facility is [redacted] The cost estimate difference is about 7 percent. If the review were to stop here these two estimates may seem not too dissimilar. Yet, in fact, the 1998 Business Plan estimate includes almost [redacted] in Steps 3 (pre-license application) and 4 (post license application) non-construction costs, while the PCCE-I includes none of these costs (at least not explicitly). The inclusion of Step 3 and Step 4 costs are relevant to costs estimates to the extent those costs are recouped from construction funding or operations.

When accounting for Step 3 and Step 4 costs, the 1998 Business Plan estimate for remaining construction costs is [redacted] ess than total costs in PCCE-I for a 10,000 MTU facility. One reason for the difference is the PCCE-I estimate of the Low rail spur is 33 percent higher [redacted]. It is unclear how PFS derived the Low rail spur estimate in the Business Plan because the PFS' 1998 Transportation Study,

completed prior to the 1998 Business Plan, estimates the construction cost of the Low rail option at [redacted] not [redacted]. Exh. 17 at PFS-02855. Also, the PCCE-I includes [redacted] for two main line locomotives and [redacted] for a shortline locomotive, while the Business Plan only allocates [redacted] to a general "locomotive" category. Additionally, the 1998 Business Plan does not provide an estimate for the intermodal transfer facility alternative at all, even in the 10,000 MTU scenario where the economics would be most favorable due to the lower volume of throughput being exposed to the higher ITF operating costs per unit.

Although the PCCE-I total construction cost estimate is higher, not all construction costs are included. Unlike the 1998 Business Plan, the PCCE-I estimate does not include the significant costs of [redacted] for host benefit payments during construction. The PCCE-I estimate also does not include the almost [redacted] in road improvement costs in its estimate of the construction cost of the intermodal transfer facility alternative. Also, the 1998 Business Plan estimates [redacted] higher costs for rail equipment than the PCCE-I

Closer analysis reveals that the apparent similarities in the 1998 Business Plan and PCCE are illusory. This is symptomatic of PFS's lack of cohesiveness in its presentation of a well-defined project for evaluation within the framework of the license conditions.

5. MISSING CONSTRUCTION COSTS

Q. 32. What construction costs were not included?

A. 32. None of the documents clearly show estimated costs for the detention pond or the probable maximum flood barrier. Similarly, PFS's April 26, 2000 Preliminary Construction Cost Estimates does not include costs for host benefit payments during the construction phase, ambulance, fire response vehicles, security vehicles, or PFS administrative oversight costs. In addition, the Carder Concrete Products estimates supporting the 1998 Transportation Plan include [redacted] to improve the Skull Valley Road to accommodate heavy haul transfer of SNF. Exh. 18. Furthermore, if PFS elects to use the intermodal transfer facility, the April 26, 2000 construction cost estimates do not include costs for improving the four mile access road to the ISFSI facility or the cost of heavy haul trucks.

6. TIMING UNCERTAINTY

Q. 33. What is your understanding of when PFS plans to construct the storage facility?

A. 33. PFS's Environmental Report includes a construction schedule which shows phase I construction, including construction of the rail spur and the rail line, beginning in September 2000. Exh. 12, ER Rev. 2, at 3.2-2. However, as reflected in the ASLB litigation schedule, PFS will not have a license in September of 2000. Additionally, in his deposition, Mr. Parkyn said that PFS does not have any signed service agreements to date. Also, in a discovery response, PFS indicated PFS itself "has insufficient information to admit or deny" that construction would not commence September 2000 and that the construction schedule is affected by the schedule for the completion of the NRC Staff's Final Environmental Statement and the hearing schedule. Applicant's Objections and Responses to State of Utah's Eighth Set of Discovery Requests (January 11, 2000), Response to Request for Admission No. 4. Moreover, construction of the facility is dependent upon if and when PFS complies with LC17-1 and has obtained sufficient funding commitments.

The dates for construction of additional capacity is also uncertain. In the ER, PFS estimates construction dates for phase II and phase III. However, the timing of additional capacity is dependent upon an unknown initial operating date, an unknown demand for spent fuel storage, and PFS's uncertain ability to obtain sufficient funding commitments. Thus, the timing of initial and additional capacity construction is completely uncertain at this point.

Q. 34. Given the uncertainty in construction dates, has PFS accounted for the vintage of its construction cost estimates by providing a mechanism to ensure construction cost estimates are reasonably accurate for the projected construction dates?

A. 34. No. The problem is that PFS has made a variety of construction cost estimates based on past data and often not in current dollars. Since costs and prices change over time, often dramatically, it would be unreasonable to assume that just because costs were at such a level in the past that current costs must be the same. Cost changes are especially a concern in the nuclear industry where technological changes and the regulatory structure are seldom static. The first license condition, LC17-1, can only perform its function in light of 10 CFR § 72.22(e) if PFS has to show that it has committed resources sufficient to cover the cost of construction at the time PFS decides to construct the facility. If construction cost estimates

are determined now, NRC Staff must have a process to update the estimate at the time the Staff evaluate compliance with LC17-1. Additionally, there must be a time limit on the Staff's verification of compliance with LC17-1 or in other words, PFS must construct the facility or additional capacity within a short time period to ensure the applicability of the cost estimates.

For example, if PFS intended to construct the facility in the Spring of 2003 it is not sufficient for PFS to show what construction costs were in 1997. Similarly, it would be insufficient to allow PFS to satisfy the first license conditions with a 2000 vintage cost estimate when it does not actually intend to undertake construction until some later date when the 2000 cost estimates would no longer reasonably estimate actual costs.

The basic principle at work here is that the data underlying the cost estimates, the commitment of financing, and the construction itself should all occur in close temporal proximity. Put more briefly, the cost estimate, the financing, and the construction must happen more of less simultaneously.

Q. 35. Has PFS provided a mechanism for adjusting its current construction cost estimates to reflect costs at the actual time of construction?

A. 35. No. PFS's construction cost estimates are in documents from many different years, going back at least to 1997. The documents, however, do not indicate the year in which the data were generated. Thus, PFS's 1998 Business Plan could be based on data generated in 1998 or even 1990, since business plan writers rely on estimators' reports from some previous period, and estimators rely on publications published the previous year, and book publishers rely on data from yet an earlier period. PFS never indicates what vintage of data the estimates rely upon.

Additionally, it is unclear in what years dollars the cost estimates are based and how PFS converted any past estimates into the stated years dollars. For example, the 1998 Business Plan cost estimates are purportedly in 1997 dollars. As I noted previously, the year in which the data was generated is not specified. The 1998 Business Plan also does not specify how pre-1997 data was converted to 1997 dollars. Further, the years dollars within a single document may not be consistent. Mr. Parkyn indicated although he updated canister and storage cask costs in the 1998 Business Plan, he was unsure in what years dollars the updated canister and storage casks cost estimates were made. Exh.14, Parkyn Tr. at 64-65.

Also, the estimates currently before us cannot be adequate for meeting the test of the first license condition at some indefinite future date, and there is no firm idea of when PFS will have the financial commitments in place to make a showing. In fact, Mr. Parkyn said in his deposition that PFS currently has no signed service agreements whatsoever. Id. at 134. Thus, there is an increasing gap between the cost data underlying the estimates and the actual costs when PFS is finally able to demonstrate some level of financial commitment in accordance with LC17-1.

Lastly, PFS has not indicated a time limit or process to ensure construction occurs with in a reasonable time period after it has demonstrated its ability to obtain funding commitments. As I noted above, restricting the time between PFS's demonstration of committed funding, as required by LC17-1, and the actual time of construction, is essential to assuring the reasonableness of the cost estimates and ensuring that PFS has adequate funds to construct and not cut corners. For example, if PFS demonstrated sufficient funding commitments through debt financing, and then delays actual construction to a significantly later period, the loan amount may not be sufficient to cover construction costs at the time of actual construction. Thus, the license condition will not have performed its function and 10 CFR § 72.22(e) will have been subverted.

Q. 36. How would you suggest solving this problem?

A. 36. First, in this proceeding PFS needs to provide cost estimates based on current data. Second, PFS needs to identify appropriate cost escalators for use in the short term. Third, PFS should be required to undertake and complete construction within a limited period (e.g., within 3 years), since any substantial delay will create an unacceptable gap between rising costs and static financing.

7. FINANCING PLAN

Q. 37. What is your understanding of PFS's plans to finance construction?

A. 37. The information presented by PFS is riddled with uncertainties. PFS states that "it retains the option to finance the non-equity portion" of the construction phase through debt financing secured by service agreements. Exh. 14, LA Rev. 6 at 1-6. In PFS's Environmental Report (Exh. 12), Chapter 7, Revision 7, Appendix 7A, p.2, PFS says "municipal bonds are the likely source of funding for PFS."

However, the 1998 Business Plan assumes no debt costs whatsoever for construction financing. *See, e.g.*, 10,000 MTU scenario, pp. 21 and 30 of 81 (Exh. 15). Conversely, in a 1996 PFS *Confidential Finance Committee Information* proprietary document (State's Exhibit 23), PFS indicates an intent to obtain [redacted] percent debt financing. Exh. 23 at PFS-35210. Further, in his deposition, Mr. Parkyn said that whether a construction phase is financed by debt is determined by whether any customer chooses to finance its portion of construction costs through debt financing. Exh. 14, Parkyn Tr. at 71. Thus, PFS seems to have relinquished its business planning to the wishes of its individual customers and has made no estimate of whether PFS will incur any debt costs.

Q. 38. To what extent will financing construction costs impact the overall construction cost estimate?

A. 38. Up-front financing costs (*i.e.* the cost of obtaining financing) may be significant. Up-front financing costs must be paid before or during the construction period and, therefore, those costs must be part of the construction cost estimate.

Q. 39. Has PFS considered the costs of up-front financing costs in its construction cost estimates?

A. 39. No. Nowhere in its construction costs estimates has PFS indicated the possibility of up-front construction financing costs. Both the 1998 Business Plan and the PCCE-I show no financing costs and no interest payments.

8. DEMAND TIMING

Q. 40. What is your understanding of the demand for storage at PFS's facility and how it relates to construction?

A. 41. Demand for the facility affects the timing of the start of construction which in term affects the firmness of the underlying costs estimates.

In the Environmental Report, PFS says it will construct the facility in three phases. Exh. 12, ER Rev. 2, at 3.2-2. According to the ER, in phase I and II, PFS plans to construct 25% capacity in each phase to accommodate 10,000 MTUs in each phase. Id. In phase III,

PFS plans to construct 50% capacity to accommodate 20,000 MTUs. Id. at 3.2-4. Conversely, the May 19, 1998 RAI response indicates that PFS would build a 40,000 MTU facility in three phases, one third capacity in each phase. Exh. 11.

PFS has not actually committed to constructing any specific size facility. Although the license capacity requested is 40,000 MTU, PFS has indicated that the size facility actually constructed and operated depends on the demand for storage or the amount contracted through service agreements. Exh. 14, Parkyn Tr. at 107. As I noted above, PFS currently has no signed service agreements. Id. at 134. Although PFS has maintained that the facility is feasible based on the storage needs of PFS members themselves, apparently no member has been willing to commit itself to storing waste at the proposed site. The amount of capacity built in any construction phase is entirely uncertain at this time. Unknown construction capacities make estimating construction cost estimates for an initial or additional capacity difficult if not impossible.

D. CONCLUSION REGARDING CONSTRUCTION COSTS

Q. 41. Do you have an overall conclusion with respect to PFS's construction cost estimates?

A. 41. Yes. PFS's estimates have yet to coalesce into a firm cost estimate – either for an initial capacity facility or for additional capacity. Uncertainties abound as to cost, capital cost options, financing, timing, and scale. Many costs depend on demand as do the construction date and the scale of construction. In his deposition Mr. Parkyn stated that PFS has not tightly defined the number of construction phases or storage capacity per phase. *See* Exh. 14, Parkyn Tr. at 107. Essentially, Mr. Parkyn said that the number of phases and storage capacity per phase are dependent upon the storage demand determined through service agreements. Id. Yet, Mr. Parkyn reports in his deposition that PFS still has not a single signed service agreement. Id. at 134. Therefore, it is impossible to arrive at a "hard" cost estimate under these circumstances.

IV. OPERATING COSTS

A. OVERVIEW

Q. 42. How did you conduct your analysis of operating costs?

A. 42 I reviewed PFS's operating cost estimates and other documents bearing on cost in order to determine whether:

1. PFS appropriately defined the scope of the project and included all relevant costs on at least a contingent basis;
2. There was any indication of an improper shifting of costs to other entities;
3. Major cost elements were sufficiently disaggregated to allow a reasonable review;
4. The data and assumptions underlying the cost estimates were explicit and reasonable; and,
5. The timing of the project would bring timely cost estimates based on timely data, together with timely funding and timely construction.

Further, as I discussed above, I took into account that the reason for establishing cost estimates now is to establish estimates that may be used to determine whether the Applicant can satisfy LC17-2.

Q. 43. In your opinion, what are the "operating, maintenance and decommissioning costs" specified in the staff's proposed second license condition, LC17-2?

A. 43. These "operating, maintenance, and decommissioning costs" ("operating costs") are all the costs that have to be paid during the operational phase of the facility, including depreciation and interest.

Q. 44. How do operating costs differ from the "construction costs" in the first license condition, LC17-1?

A. 44. It is important to say at the outset that operating costs are not the complement of the construction costs. Operating and construction costs represent the costs corresponding to the license conditions. Although it is nowhere clearly stated, I assume the idea is that PFS must have enough funding to cover the cost of construction at the time of construction; and then as a separate matter the resources to cover the bills which come due during the operational phase of the facility, including construction costs reflected in depreciation charges, and interest charges.

Q. 45. Why are PFS' operating cost estimates important?

A. 45. PFS must have a firm and realistic picture of the costs it must face in operating its facility. Only by having hard operating cost estimates will PFS be able to determine whether there is a market for its service at a price – and at revenue levels that will cover costs rising over time for the twenty, forty, or more years of operations.

If PFS entered into binding contracts for services based on underestimated operating costs, there is the possibility that the operations would be underfunded. An underfunded operation would pose a threat to health and safety which is exactly what 10 CFR § 72.22(e) was meant to address and prevent.

Q. 46. Have you reviewed the Applicant's license application, and if so, what sections of the license application address operating cost estimates?

A. 46. PFS's License Application, pages 1-6 to -8 (*see* Exh. 10) discuss gross operating and maintenance costs. In addition, PFS addresses gross operating and maintenance costs in its May 19, 1998 RAI response to question 1-5. PFS further addresses customer fees in its February 10, 1999 RAI response to question LA 1-1 (*see* Exh. 13).

Q. 47 What other primary documents contain PFS's operating cost estimates?

A. 47. Operating cost estimates and information are also found in PFS's 1997 Business Plan and 1998 Business Plan. PFS has not updated or disaggregated its operating cost similar to its April 26, 2000 Preliminary Construction Cost Estimates.

Q. 48. Please provide an overview of PFS's primary operating cost documents and the bases used by PFS for its cost estimates.

A. 48. PFS's License Application merely estimates operating costs at $49 million per year for a 20-year facility and $31 million per year for a 40-year facility. Exh. 10, LA Rev.6 at 1-7. The License Application estimates are based on a 15,000 MTU facility and costs are averaged over either a 20 or 40 year period. Id. Further the License Application does not explain how estimated costs were determined and there is only a rough description of what is included in the estimated costs. A PFS RAI response merely restates the average annual operating cost estimates provided in the License Application. Exh. 11, PFS RAI Response to Question 1-5. The RAI response also says the estimate was in 1997 dollars and discusses generic escalation considerations. Id. Another PFS RAI response specifies general

categories for PFS's storage fee scheme. Exh. 13, PFS RAI Response to Question LA 1-1.

The 1997 Business Plan presents costs for a [redacted] MTU scenario, while the 1998 Business Plan includes estimates for 10,000, [redacted] and 40,000 MTU scenario facilities. The basis for the estimates in each case are either limited to one sentence statements on the "Assumptions" page of the Business Plan or are missing altogether. *See, e.g.*, Exh. 15, 1998 Business Plan, [redacted] scenario, at 2-3 of 117, PFS bates number 12035-6 (State's bates number 05144-5).

Q. 48. Describe your concerns with PFS's operating cost estimates.

A. 48. In general, I am concerned with the following:

1. PFS has not included estimates for all major operating costs nor has it included contingencies to address those missing costs.
2. There are numerous uncertainties and inconsistencies in the estimates which arise in many cases from the lack of a finite or specific proposal. Put another way, the estimates suffer from the lack of a clear operating plan and schedule.
3. PFS has provided very little explanation of: a) the assumptions underlying the estimates; b) the derivation of the estimates; and c) the provenance and vintage of the data underlying the estimates. Furthermore, a number of major line items are insufficiently disaggregated to allow an assessment of what the line item includes and how the estimate was derived. Consequently, the basis for the estimates and the quality of the estimates cannot be evaluated or validated.
4. PFS has not explained in any detail how it intends to use escalators in conjunction with its cost estimates to derive a reasonable operating cost at the time it demonstrates compliance with LC17-2. Although PFS has said that escalators will be included in service agreements, it has consistently refused to provide these agreements; thus, it unknown whether escalators are actually defined.
5. Finally, complicating the abovementioned problems, the years dollars of the estimates are often not stated, or even when stated, are found to be substantially out of date.

B. MISSING COSTS

Q. 49. What are the major operating costs that PFS has either not included in its specific estimates or in contingent estimates?

A. 49 As explained in more detail below, PFS has not included debt financing costs, all potential canister and cask costs, [redacted] rain operating costs, intermodal transfer facility operating costs, reactor fuel transfer costs, transportation from reactor to railhead costs, removal of concrete pads and structures, nuclear insurance premiums, insurance deductibles, and letter of credit costs.

1. Debt Financing

Q. 50. Has PFS determined it will debt finance any phase of construction?

A. 50. There is no clear cut answer to this question. As I testified earlier with respect to construction cost estimates, the information presented by PFS is torn by contradictions. The 1998 Business Plan assumes zero debt for construction financing while in other documents, including the License Application, PFS retains the option to debt finance construction even up to a 100 percent. Moreover, Mr. Parkyn has said that it is each individual customer's decision to debt finance the portion of construction in which the customer's fees are meant to cover.

Q. 51. What is your assessment on how PFS intends to obtain funding?

A. 51. To fund construction, [redacted] PFS also says that municipal bonds are the likely source of funding. Exh. 12, ER Chapter 7, Rev. 7, Appendix 7A, at 2.

Q. 52. What are the operating cost ramifications of using debt to finance construction costs?

A. 52. If indeed PFS intends to use debt financing for construction, then interest expenses and principal repayment are missing from post-construction, *i.e.* operating costs. These expenses may be substantial.

Q. 53. What is your opinion of the possible costs of debt financing?

A. 53. For demonstration purposes, if the [redacted] percent debt financing interest rate amortized over a 20-year period, as presumed in the 1998 Business Plan (10,000 MTU scenario at 30 of 81, PFS Bates 12298 (Exh. 15, State bates number 05408)), is applied to a $100 million construction cost, the interest would roughly total [redacted] Similarly, if the [redacted] percent interest rate amortized over a 30-year period, as assumed in the 1997 Business Plan, the interest expense alone for a $100 million debt is [redacted]

Q. 54. Is the [redacted] percent interest rate for debt financing shown in PFS's Business Plans reasonable?

A. 54. Interest rates have been increasing relatively sharply since the beginning of the year. PFS has suggested that it could borrow at the same rate as Northern States Power, a PFS member utility. *See* Exh. 12, ER Chapter 7, Revision 7, Appendix 7A, at 1-2. But PFS is a limited liability company with no assets of its own, whereas Northern States Power is a regulated monopoly with billions in assets. Moreover, interest rates on even Baa rated corporate bonds rose 50 basis points between January 3 and May 5, 2000, to 8.74 percent, and are still rising. *See* Federal Reserve Statistical Bulletin, H15 (various dates). Finally, it seems a little doubtful that PFS could achieve a Baa rating with no assets and zero signed service agreements. Under these circumstances, PFS'S estimates of [redacted] percent might well be low, unless there is a "municipality" willing to guarantee the repayment of PFS'S "municipal" bonds.

Q. 55. How should PFS address debt financing costs and principal repayment?

A. 55. PFS must provide a reasonable assumption of the amount it is likely to finance by debt or assume 100 percent debt financing. PFS must provide detailed financing information with respect to its options, including whether it has the option to finance with municipal or otherwise tax exempt or guaranteed bonds. PFS must then provide a "hard cost estimate" of interest expense and related costs with respect to its financing plan.

2. Comprehensive Cask and Canister Operating Costs

Q. 56. Please explain your concern with canister and storage cask costs.

A. 56. PFS has not made reasonable assumptions or included all operating costs with respect to canister and storage casks. PFS has included [redacted] per storage cask and [redacted] per canister as operating costs in its 1998 Business Plan. Exh. 15, 1998 Business Plan, 10,000 MTU scenario at 31 of 81, PFS bates No. 12299 (State's bates number 05409) However, these costs appear to be substantially underestimated. [redacted]

As noted earlier, notwithstanding this agreement, Mr. Parkyn in his deposition said that the storage cask concrete technical specifications may exceed the capability of the concrete batch plant and that PFS will not manufacture the storage casks. Exh. 14, Parkyn Tr. at 21, 34. Yet the costs in the 1997 Holtec agreement appear to be premised in part on PFS furnishing concrete for the storage casks. [redacted] PFS has reflected this [redacted] cost figure in its operating cost estimates for casks. Id. If PFS is unable to furnish the significant quantities of concrete for casks which are 19 feet tall and 13 feet in diameter, then the [redacted] cost figure is underestimated.

If PFS will in fact provide the concrete for the storage casks, a higher grade batch plant may be necessary which would involve additional costs that may be substantial. Moreover, batch plant operating costs must be included with respect to providing concrete for the storage casks.

~~MAY CONTAIN PROPRIETARY INFORMATION~~

[redacted]

Q. 57. [redacted]

A. 57. [redacted]

4. Operating Costs for the ITF and the Low Railroad

Q. 58. What operating costs has PFS neglected with respect to the railroad and intermodal transfer facility?

A. 58. PFS may incur costs for its own railroad operations and ITF operations, including transporting the SNF by heavy haul truck. As noted in testimony on construction costs, PFS in some places claims that it will operate either the Low rail spur railroad or the ITF, while in its Environmental Report (Exh. 12 at 3.2.2) and *Private Fuel Storage Facility General Project Description, Planned Construction Schedule and Proposed Environmental Permitting Needs*, PFS draft document dated February 9, 1999 (State's Exhibit 19, PFS-30849, p.4.) PFS claims that it will operate both. Furthermore, PFS is actively proceeding with two BLM rights-of-way applications for use of both parcels of public lands at Rowley Junction and the Low corridor. On the other hand, Mr. Parkyn said in his deposition that PFS will use one transportation alternative but that the alternative has not been selected. Exh. 14, Parkyn Tr. at 77.

PFS's 1998 Business Plan, however, reveals that PFS does not appear to include in its estimates any of the following:

1. Railroad Crew Salaries for any employees operating PFS's locomotives on the on the Low spur. Exh. 15, Business Plan 1998, at p. 33 of 81.

2. Railroad Operating Costs for PFS' own trains either on the mainline or on the Low Spur. "Railroad Fees" appear to be fees paid to mainline carriers. It is unclear whether "railroad fees" include railroad crew costs on the mainline or Low rail spur or whether those fees are mainline usage fees only. Id. at 31 of 81.

3. ITF Employee Salaries for employees operating the ITF and transporting the spent fuel by heavy haul truck, including necessary security for both the SNF onsite at the ITF and en-route to the ISFSI.

4. ITF Operating Costs for operations at the ITF including operating the heavy haul trucks.

5. Bureau of Land Management ("BLM") lease payments and bonding requirements for PFS's use of the rights-of-way for the Low rail spur and the ITF. Furthermore, BLM lease payments must be based on PFS's planned usage involving SNF, not on rates for grazing or other non-toxic uses. Also, PFS's estimates must account for any bonding requirements BLM may impose because of PFS's intent to transport SNF or toxic waste across public lands.

It's worth noting for context that while no train crew employees or heavy haul drivers or other railroad or ITF employees are listed by PFS, three full-time "offsite" nuclear engineers whose job it is to oversee loading of fuel at reactors, are listed. Id. at 33 of 81.

5. Reactor-end Operating Costs

Q. 59. What reactor fuel loading costs are missing?

A. 59. As noted earlier, some reactor sites are unable to load or move Holtec canisters due to pool or crane limitations. PFS has proposed to get around reactor site limitations by using an uncertified dry transfer system as an intermediate step in the loading of SNF. PFS's plan is to buy two dry transfer systems and move them around the country from reactor to reactor as the need arises. Exh. 14, Parkyn Tr. at 87

However, while PFS provides an estimate of the capital costs of two dry transfer systems ([redacted] each) and shows capitalized costs for a Step 4 Capitalized Costs line item called "Dry Transfer Implementation" for the years 1998-2000 for a total of [redacted] there is no corresponding line item for transportation, and installation, operation, and extraction at the reactor. *See, e.g.*, Exh. 15, 1998 Business Plan, 10,000 MTU scenario, PFS bates number 12302, 12320 (State's bates number 05412, 05430). These costs may be substantial.

For example, Figure 1.1-1 included in the DOE SAR shows a two story building designed to hold the equipment, implying that installation and extraction expenses might be significant. State's Exhibit 26, DOE, Dry Transfer System: Topical Safety Analysis Report Volume I (September 30, 1996).

The dry transfer system works by moving one or two fuel assemblies at a time from the pool into a small transfer cask which is then moved elsewhere where the fuel assemblies are transferred to a full-sized Holtec canister. This is a time consuming process:

> The [design transfer system] is designed to enable loading of one receiving cask in ten 24-hour days. It is also designed to turnaround one source cask in one 24-hour day . . . The DTS is designed to be constructed at any reactor site or new site where dry transfer is required. The system is designed such that the mechanical equipment can be transported to another site after completion of the fuel transfer campaign.

Exh. 26, DOE, Dry Transfer System: Topical Safety Analysis Report Volume I, at 1.1-5. Thus, the dry transfer system is a labor intensive process that may have significant operating costs. Although PFS has maintained that labor for SNF loading at the reactor will be borne by the utility, there is no documentation (such as the service agreement) which clearly allocates primary cost responsibility.

Let me add that I would be wary of any unsubstantiated blanket claim on PFS's part that all costs will be covered by the reactor owner. In such an event, PFS should provide a reasonable estimate of the costs, along with its agreement with the utility assigning primary responsibility. The integrity of the second license condition would be compromised if PFS were permitted to avoid providing "hard cost estimates" by substituting unsubstantiated claims that some other entity will cover costs that arise out of the debt and service being provided by PFS.

6. Reactor-to-Railhead Transport Costs

Q. 60. What transportation costs are missing?

A. 60. Reactor to railhead transportation and related costs are missing. As PFS admits, there are some reactors that do not have direct rail access and will have to ship their SNF to a railhead either by heavy haul truck or by barge. Applicant's Objections and Responses to State of Utah's Ninth Set of Discovery Requests, Request for Admission No. 24 (January 31, 2000). In his deposition, Mr. Parkyn stated that PFS might pay reactor to railhead transportation costs and then bill the customer or the reactor owner may pay these costs directly. Exh. 14, Parkyn Tr. at 102-04. However, all operating costs which are PFS's primary responsibility must be considered in its operating costs. In effect, if PFS's operations are in fact feasible, some customer is ultimately responsible for its share of all operating costs, but as the service provider and the entity which initially incurs the debt, PFS must assume primary responsibility.

Q. 61. How should PFS address reactor to railhead transportation costs?

A. 61. PFS must first reasonably identify what likely customers, including its own members, do not have direct rail access. Next, PFS should provide an estimate of railhead transportation costs and explain how the estimate was derived. To be conservative, PFS should include the entire corpus of these expenses in its operating cost estimates, unless it is able to demonstrate through signed service agreements that these charges will be paid directly by the utilities involved.

7. Costs of Removing Concrete Pads and Structures

Q. 62. What costs are missing with respect to removing the concrete pads and structures?

A. 62. [redacted]

[redacted]

Q. 63. How should PFS treat these foreseeable costs?

A. 63. [redacted] PFS should estimate the cost of removing the buildings and the pads and include the estimate in operating costs, along with an explanation of how the estimate was derived, for the purposes of satisfying LC17-2.

8. Regulatory Expenses: The Utah Radiation Control Act

Q. 64. What is your next item?

A. 64. Regulatory expenses associated with the construction and operation of the PFS facility under the State of Utah's Radiation Control Act, Utah Code Annotated, Part 3 (State's Exhibit 28). This Act requires anyone who wishes to transport, transfer, or store high level nuclear waste to meet certain regulatory requirements including obtaining necessary approvals and agreements, paying an application fee, and obtaining a bond. Id. at §§ 19-3-301 to -318.

The application filing fee is $5 million; the cost of the bond required is unknown, but probably substantial. Id. Further, PFS's own costs of meeting the necessary State regulatory requirements are also unknown.

Q. 65. How has PFS accounted for costs with respect to meeting the requirements of the Utah Radiation Control Act?

A. 65. As far as I can determine, these costs are not reflected anywhere in PFS's estimates either for construction cost or for operating costs. The amount involved here is at least $5 million but may be much higher, depending on the regulatory requirements imposed, including specific costs of the bond and the length and complexity of the process.

9. Nuclear Insurance Premiums

Q. 66. Has PFS included nuclear insurance premiums in its operating costs?

A. 66. PFS will have several kinds of insurance including both nuclear liability and nuclear onsite property insurance. The issue here is whether PFS has provided a hard cost estimate of the cost of the two nuclear policies. The cost for "nuclear insurance" as an aggregate category in both the 1997 and 1998 Business Plans is [redacted] *See e.g.*, Exh. 15, 10,000 MTU scenario, PFS bates no. 12299 (State's bates No. 05409).

In his deposition, Mr. Parkyn said that the two policies are for $200 million and $70 million, for nuclear liability and onsite property insurance, respectively. Exh. 14, Parkyn Tr. at 128, 130. He went on to say that he had been told that the combined premium would be about [redacted] Id. However, Mr. Pickerl, of Marsh and McClennan, the insurance brokerage firm advising PFS, testified in his deposition that informal inquiries to two insurance markets brought forth that about [redacted] in combined onsite property coverage might be available, but that he had not gotten a figure for the cost of this level of coverage. State's Exhibit 29, Pickerl Tr. at 15-16. Potential insurers will not be approached for a definite commitment and a premium estimate until PFS has made a definite decision on proceeding with development of the facility. Pickerl Tr at 19. Thus, there is currently no firm level of coverage and any premium quote.

Q. 67. How does the lack of nuclear insurance coverage and premiums impact the operating cost estimates?

A. 67. I conclude that PFS's refusal to obtain a "hard cost estimate" for this item of significant cost defeats the purpose of this part of the proceeding. Moreover, if the actual coverage and premiums are unknown, PFS cannot claim that the nuclear insurance cost allocated in the Business Plan is reasonable.

10. Nuclear Property Exclusions and Deductibles

Q. 68. Excluding premiums, has PFS included all other operating costs related to nuclear insurance?

A. 68. No. PFS has not addressed costs of nuclear property insurance deductibles and exclusions. In his deposition, Mr. Pickerl recalled that standard exclusions include non-sudden accumulations of radioactive contamination and "war risks." Exh. 29, Pickerl Tr. at 28-30. Moreover, Mr. Pickerl did not address whether damage from military training

exercises would be excluded but that the exclusion is for war-like action or damage resulting from a declared war or open hostilities. *Id.* at 44. PFS has not explicitly included any provisions to fill the gaps that are probably left in the coverage under nuclear property policy exclusions.

Also, Mr. Pickerl testified that a common range of deductibles for nuclear property insurance is [redacted] Id. at 31. PFS has also not explicitly included costs for nuclear insurance deductibles.

Furthermore, as discussed later, PFS has not justified the necessary amount of nuclear property insurance needed to account for PFS's risks nor has PFS ascertained whether a justified amount of coverage will in fact be available from the nuclear insurance market. PFS has not accounted for any lapse in nuclear property insurance coverage. Nor has PFS specifically addressed nuclear property insurance needs along the Low rail spur or intermodal transfer facility.

As it stands PFS has not negotiated a policy or ascertained the deductibles or the exclusions. Further, PFS has not addressed how deductibles or exclusions will be covered. The amounts involved could conceivably be significant. Without this primary information, however, there is no way to produce a hard cost estimate.

11. Letter of Credit Costs

Q. 69. Has PFS included costs to obtain the letter of credit for site decommissioning?

A. 69. No. There are fees involved in procuring and maintaining a letter of credit. The bank letter confirming that it is prepared to issue the letter of credit specified that the fee applied in the letter of credit would be determined in the future. Exh. 11, PFS RAI Response to Question 1-7 (May 19, 1998), Attaching Letter from H.N. Holley to John Parkyn (April 28, 1998).

Again PFS has not explicitly accounted for the letter of credit fee in its operating or decommissioning cost estimates. However, PFS's estimates of operating costs in the 1998 Business Plan are generalized and aggregated to the extent that there is a certain lack of concern with ensuring that the estimates are complete. To the extent the letter of credit fees

are costs of doing business, PFS must account for these costs.

C. UNCERTAINTIES AND INCONSISTENCIES IN THE ESTIMATES

Q. 70. Have you identified uncertainties and inconsistencies in PFS's operating costs?

A. 70. Yes.

Q. 71. Please explain how uncertainties and inconsistencies impact the cost estimates.

A. 71. Operating, maintenance and decommissioning costs are all functionally related to project characteristics like size and timing of the project, when the facility will be built, how long the SNF will remain on site, the operating life of the project, the length of storage time for and other similar factors. The greater the number of unresolved uncertainties, the more difficult the task of arriving at the hard operating cost estimate necessary to make the showing to satisfy the second license condition. It will be difficult if not impossible to arrive at a hard cost estimate for operating costs when there are two or more outcomes for each uncertainty and each possible outcome has a different cost consequence for the total.

Q. 72. How would uncertainties impact license condition, LC17-2?

A. 72. In my opinion the idea of the license conditions was to force PFS as a condition of approval to come forth with verifiable estimates of the costs to build and operate a specific defined project. There is no way around the fact that if the project is poorly or incompletely specified, the costs will be indeterminate. If the costs are indeterminate, i.e "soft," then in all but the most obvious cases it will be difficult to impossible to tell whether a particular sum of money is sufficient to build or operate the facility.

In terms of the license conditions and the underlying standards set forth at 10 CFR § 72.22(e), PFS must provide a particular and well defined project, with a set of operating costs that pertain to that particular project, and then show that PFS has the committed resources to cover those costs.

Thus, the hearing in this matter should determine whether PFS has reached the stage of having a well defined specific project, and whether it has a set of hard cost estimates corresponding to the various line items of that project. If not, the license condition is meaningless and the Staff cannot make a determination that PFS has provided reasonable assurance of obtaining funds to cover the estimated operating costs as required in 10 CFR § 72.22(e).

Q. 73. Have you identified substantial uncertainties, and if so, please describe them?

A. 73. At a certain point in the planning of a project the conceptual diversity and uncertainties which often characterize the early parts of the process coalesce into a coherent plan and effort. With respect to PFS, I don't get the sense from studying the documents and participating in depositions that PFS is yet at the stage of resolving uncertainties and coming up with a firm plan.

There are substantial uncertainties in PFS's definition of the project. The initial size of the facility is still undefined, and the license condition only commits PFS to restricting construction until it has funds adequate to construct a [redacted] MTU facility. However, the license condition does not commit PFS to actually building any specific capacity. *See* SER at 17-7. Moreover, the construction of additional capacity is also undefined. Id.

Some operating costs are based on a 20-year license period while some are based on a 40-year license period. The initial construction date is unknown; the date of operations is unknown. Whether the project includes the Low rail spur or the ITP is unknown. Whether the facility will have to be designed to supply concrete and complete manufacturing of the Holtec casks is a matter of controversy. The amount of nuclear property insurance available, the amount of coverage PFS will in fact acquire, the premium costs, the exclusions, and the deductibles are all unknown at this stage. Also, PFS has not committed to a specific plan for financing: what portion will be financed by customer payments, general debt financing, or municipal bonds, etc.

In its 1998 Business Plan, PFS estimates operating costs for payments to Tooele County and the State of Utah for sales tax. *See, e.g.*, Exh. 15, 1998 Business Plan, 10,000 MTU scenario, at 29 of 31, PFS bates number 12297 (State's bate number 05407). There is uncertainty with the accuracy of the estimates because PFS fails to explain how the estimates were derived. There are also uncertainties surrounding the costs estimates. I believe that

PFS and Tooele County have negotiated or may be negotiating an agreement that may specify applicable fees and payments to be made by PFS to the County. Such an agreement with Tooele County for the fees and payments may be substantially different than the 1998 Business Plan estimate.

With respect to sales tax, Mr. Parkyn said in his deposition that the sales tax estimate was based on items PFS expected to purchase in Utah, including the canister and storage cask. Exh. 14, Parkyn Tr. at 62. [redacted] nd there may be additional costs associated with whether or not PFS provides the concrete for the storage cask. The canister and storage costs are a substantial portion of the overall operating costs and it is likely that a substantial portion of the estimated sales tax rely on the cost of the canister and casks. Thus, to the extent the canister and cask costs are uncertain the sales tax estimate is also uncertain.

In his deposition, Mr. Parkyn said the Skull Valley Band of Goshutes or the U.S. Bureau of Indian Affairs ("BIA") has the option to pass a bond and require additional insurance or bonding. Id. at 76. Mr. Parkyn confirmed that PFS's operating costs do not include costs to address any additional insurance or bonding required by the Band or BIA. These costs are currently unknown and could be substantial.

Another significant uncertainty is that PFS has not determined the actual storage capacity in contrast to the maximum license capacity. PFS's 1998 Business Plan provides three scenarios, [redacted] 10,000 MTU [redacted] 40 year facility, and a 40,000 MTU 40 year facility. However, according to Mr. Parkyn, the actual capacity of the facility is dependent upon the service agreements or demand from customers. Id. at 108. License condition LC17-2 does not commit PFS to any initial or subsequent operating capacity. Therefore, the operating costs which are in part dependent upon the amount of SNF on site are similarly uncertain.

Another uncertainty is timing of when SNF is actually shipped offsite thereby eliminating related operating costs. In the 1998 Business Plan, depending upon the capacity scenario, PFS assumes a certain amount of SNF is shipped offsite during various years. *See, e.g.*, Exh. 15, 1998 Business Plan, 10,000 MTU scenario, 4 of 81, PFS bates number 12272 (State's bates number 5381). Also in his deposition, Mr. Parkyn verified that PFS customers are under no obligation to delegate any Department of Energy ("DOE") priority for SNF acceptance to allow SNF shipped from PFS. Exh. 14, Parkyn Tr. at 69. Thus, the rate of

SNF shipped offsite is uncertain and so are the related operating costs.

Q. 74. What effect do uncertainties and inconsistencies have on the operating costs?

A. 74. All these uncertainties make operating cost estimates uncertain and unreliable. Thus, there is no reasonable assurance that PFS will obtain funding to cover the estimated costs of operation.

D. DERIVATION OF THE ESTIMATES

Q. 75. Is it possible from the information PFS has presented to determine how the cost estimates were derived?

A. 75. Almost uniformly not. While the 1998 Business Plan presents a variety of costs in several scenarios, it lists a few general assumptions but does not provide any detail that explains how the costs were derived.

For example, in the April 26, 2000 *Preliminary Construction Cost Estimate* (Exh. 16) for most cost estimates, the costs are built up from components and wage rates and unit costs. Although PFS's PCCE still doesn't explain the basis of the component rates, this is a distinct improvement over the 1998 Business Plan estimates. PFS has not provided, however, an operations costs equivalent to the PCCE for construction costs where the basis of operating costs are explained in sufficient detail.

Almost uniformly, however, PFS has not provided anywhere close to sufficient information to determine what the specific assumptions were underlying the estimates, where the actual numbers came from, the date of the data in which the estimates were based, and what years dollars estimates were made. So for example, in the 10,000 MTU scenario in the 1998 Business Plan, PFS indicates that "[t]he cost items presented in these spreadsheets are largely known through the bidding and estimating process with an accuracy of 5 - 10%." Labor costs "are based on cost data supplied by John Parkyn." Exh. 15, 1998 Business Plan, 10,000 MTU scenario, at 2 of 81, PFS bates number 12270 (State's bates number 05379). Additionally, the Business Plan states that "the assumptions used to generate these projections are based on those used in the Business Plan dated April 19, 1995." Id. This gives no credibility to the estimates because PFS was pursuing the Mescalero Project of New Mexico until April of 1996. Id. at PFS bates number 12014 (State's bates 05122). Thus, the

assumptions, and perhaps the data, are at least dated to 1995. Moreover the assumptions are not site specific for the PFS facility.

Q. 76. Explain the importance of understanding how PFS derived its operating cost estimates.

A. 76. The accuracy of PFS's cost estimates cannot be validated until the basis of the costs are known. PFS has generally not explained the derivation of its cost estimates. The date of the underlying data is hardly ever provided, and the years dollars are almost always not provided as well. Since the estimates in documents like the Business Plans come from different sources, there is no reason to suppose that all the underlying cost data is from the same year or even denominated in the same years dollars. Thus, because the accuracy of PFS's cost estimates cannot be determined the estimates give no meaning to license condition LC17-2 or the 10 CFR § 72.22(e).

E. YEARS DOLLARS

Q. 77. Has PFS defined the years dollars of the estimates?

A. 77. No, not completely. In its license application, PFS indicates that the gross average annual operating costs are based on 1997 years dollars. Exh. 10, LA, Rev. 6 at 1-7. Additionally, the 1998 Business Plan is in a mix of years dollars. Mr. Parkyn said that the Business Plan was in 1997 dollars or as a rule of thumb 1997 dollars, but he was unsure of the years dollars for the cask and canister estimates, the major operating costs. Exh. 14 Parkyn Tr. at 63-65. In most places the years dollars are not specified. This makes it difficult to compare numbers because it's never clear whether the estimate for a particular activity or unit is the same number but in a different years dollars, or a different cost in the same years dollars. For most of the estimates in this case it is impossible to know.

Q. 78. Why are years dollars important in the context of the license conditions?

A. 78. For example, consider the simple illustration where PFS comes in to satisfy the license condition with operating cost estimates totaling $100 and with funding commitments for $100. It would be easy to simply conclude that the condition was met without looking further. But now let's say the cost estimates were in 1995 dollars, instead of year 2000 dollars. And let's assume that costs have risen 10 percent since 1995. Then what you have is

not $100 in cost estimates balanced by $100 in firm commitments, but (correcting for the years dollars) $110 in cost estimates facing only $100 in firm financing, and PFS would not have in effect met the licensing condition.

Also, if the years dollars of the operating cost estimates are not consistent, then it will be impossible to even accurately escalate the costs estimates.

Q. 79. What do you conclude regarding the problem of consistently defining the years dollars of PFS's operating costs?

A. 79. Although there are other factors that determine whether applicable escalators can in fact simply be applied to the cost estimate, PFS's current estimates cannot be accurately escalated because it has not clearly and consistently defined the years dollars of the estimates.

F. USE OF ESCALATORS

Q. 80. Describe your concerns with deriving accurate estimated operating costs with respect to cost escalators?

A. 80. Escalators enter into the process in two ways. The first is escalators that may have been used by PFS in arriving at its estimates. To illustrate, someone might have had data from 1990 on the price of rebar and wanted to use it in a cost estimate in year 2000; instead of going out and getting a new estimate on the price of rebar in the Skull Valley area in 2000. The 1990 rebar price was multiplied by 10 years worth of CPIs or some other index and presented as a year 2000 estimate. Depending upon the actual market specific element and the actual escalator used, this might produce a reasonably accurate estimate within some range or it might not. The actual market changes and the escalator must first be evaluated. In any event the escalated estimate will not be as accurate as if the estimate were based on actual current data from the relevant markets, in the target year, in the target area.

The second way to employ proper escalators is with accurate and complete cost estimates to bridge over a short period to update the estimates rather than requiring all costs to be continually empirically re-estimated. However, the cost estimates must be complete and based on a consistently defined years dollars, a well defined plan with virtually all major uncertainties resolved, and applicable data regardless of the year the data was actually generated. In addition, the various escalators selected must be appropriate for the specific

cost estimate. Simply escalating the costs for inflation will not reflect the actual market or the cost increase of the specific estimate. Moreover, the escalator must also conservatively reflect local conditions and market as needed.

Q. 81. How has PFS indicated it will adjust operating costs to reflect actual costs?

A. 81. In its License Application PFS indicates that the service agreements will include escalators that are tied to specific costs of doing business at the site. Exh. 10, LA Rev. 6, at 1-7. PFS further states that services will be tied to nationally published indices for the regional area in Utah and that NRC and insurance fees will be escalated at actual costs. Id.

Q. 82. What is your opinion of PFS's approach with respect to escalators?

A. 82. It is unclear how applying escalators to service agreements will ensure an accurate operating cost estimate at the time PFS attempts to demonstrate compliance with LC17-2. Furthermore, in its License Application, PFS states that it will apply escalators to customers: "therefore, customers will be responsible for the actual costs of ensuring operating and maintenance funding for the facility on a year-by-year basis." Id., LA Rev. 6, at 1-7. This statement implies that escalators will be applied to customers' annual storage fee. PFS has not explained how it will escalate estimates for other operating costs that are due prior to shipment of fuel such as canister and storage cask costs, transportation costs, decommissioning, initial general and overhead expenses, etc. *See*, Exh. 13, PFS RAI Response No. 2, LA 1-1 (February 10, 1999).

Moreover, in order for escalators to have any meaning the escalator must be applied to an accurate and complete cost estimate with defined years dollars, minimal uncertainties, and based on applicable data. As I've testified above, PFS does not have such a cost estimate. Thus, it's inconsequential what escalators are applied; PFS's estimate will not gain any credibility.

Next, if PFS in fact derives an accurate and complete cost estimate, PFS must still evaluate the applicability of the data in which the estimate is derived before it can apply any escalators to determine whether it must calculate new cost estimates.

Assuming PFS finally derives an accurate and complete operating cost estimate based on currently applicable data, then appropriate escalators can be applied over limited

periods of time. However, PFS has not defined what are appropriate escalators. Moreover, PFS has not documented that service agreements will in fact include escalators. Nor has PFS described how service agreement escalators relate to obtaining a current and accurate operating cost estimate. Thus, PFS's approach to escalators will not derive accurate estimated operating costs at the time it demonstrates compliance with LC17-1.

G. CONCLUSIONS

Q. 83. What are your overall conclusions with respect to PFS's estimate of operating costs?

A. 83. For all the reasons set forth above, I conclude that PFS's operating cost estimates cannot be reviewed for accuracy. However, I suspect the estimates are unreliable because there are too many unaddressed costs and too much uncertainty. PFS cannot avoid the burden of 10 CFR § 72.22(e) through silence, uncertainty, and soft estimates. Thus, PFS has not provided operating cost estimates and a mechanism to update the cost estimate such that it can demonstrate reasonable assurance of obtaining funds to cover the estimated costs of construction by complying with LC17-2.

V. INSURANCE

ONSITE NUCLEAR PROPERTY INSURANCE - BASIS 5 AND 10

Q. 84. How did you conduct your analysis with respect to onsite property insurance coverage at PFS?

A. 84. PFS has produced very limited information on any aspect of its insurance coverage. I have reviewed the limited available information PFS has produced. I considered PFS's commitments, especially those made in its Summary Disposition Motion; any assurances that PFS could secure nuclear property insurance; and whether PFS had accounted for non-routine expenses in determining the amount of necessary onsite property insurance. I reviewed the Price Anderson Act and NRC's Report to Congress "Crossing the Bridge to the Next Century," August 1998. Also, I am generally aware of the State's concerns in Utah Contention K (military hazards) and Utah Contention L (earthquakes). In addition, I was present during the deposition of Hanson Pickerl, PFS's witness who will testify about

insurance, and was present at the deposition of John D. Parkyn, Board Chair of PFS, LLC and a PFS witness for Contention E.

My framework for reviewing the adequacy of the insurance is as follows:

1. Identify the amount of on-site property insurance PFS had decided upon;
2. Review PFS' explanation and justification of that amount;
3. Determine if larger policies are available;
4. Review the terms and conditions of the policy, especially those provisions relating to the term of the policy, termination, renewability, deductible amounts, geographic scope (*e.g.*, does it cover operations at the ITF?) and exclusions; and
5. Review PFS' explanation of how it plans to deal with weaknesses in the amount or coverage of the policy.

Q. 85. Does the Price Anderson Act relate to onsite property insurance coverage at the PFS facility, and if so, how?

A. 85. First, onsite property insurance at the PFS facility can be contrasted with offsite liability insurance. If coverage is available for shipments of fuel being transported to or from the PFS facility under the Price Anderson Act, the maximum coverage under the Act is $200 million. Next, there is a retrospective assessment layer beyond the initial $200 million coverage, which requires each reactor to pay up to $63 million, as adjusted for inflation, per incident. There is a liability cap of $63 million per reactor per incident, which Congress may abrogate if it decides to provide additional compensation. The offsite liability scheme under Price Anderson is not applicable to onsite ISFSI coverage and there are, therefore, no liability caps or liability limit that apply to PFS's responsibility for onsite property insurance coverage. *See* State's Exhibit 30, a June 29, 1995 letter from NRC's C. William Reamer discussing non-coverage of ISFSIs under the Price Anderson Act. Since the Price Anderson Act does not apply to onsite property damage at the PFS facility, and since there will be a very substantial amount of property at risk onsite, insurance other than Price Anderson will have to be provided.

Q. 86. Are there special risks associated with this site?

A. 86. There are special risks associated with the site where PFS has chosen to locate its

facility. The site is located next door to an active bombing range and training area for military and warfare exercises. The State has filed an admitted contention alleging that the site's location raises significant risks for large accidents involving release of radionuclides. The State has also filed an admitted contention identifying a significant risk at the PFS site because PFS cannot meet the design basis earthquake standard required by the Siting Evaluation Factors in 10 CFR Part 72. As described in Utah Contention L, structures, systems and components important to safety at PFS may be at risk in the event of a earthquake. Neither of these matters will be heard until after the hearing on Contention E has been completed. Unless and until this Board rules otherwise in the future, my opinion is that an appropriately conservative cost estimate must assume that there are significant risks of radionuclide release at the facility that must be addressed through insurance, and/or through decommissioning costs (*see* my testimony for Utah Contention S, filed contemporaneously with this instant testimony).

In addition, in the absence of information to the contrary, I would ordinarily assume industrial accidents are possible for any such large industrial facility, and, in evaluating adequacy of estimated costs, would therefore look for associated costs of addressing such an accident. Unless and until PFS demonstrates that the risk of such accidents is insignificant, my opinion is that an appropriately conservative cost estimate must assume that there are significant risks of radionuclide release at the facility that must be addressed through insurance, and/or through decommissioning cost adjustments (*see* my testimony for Utah Contention S).

Q. 87. What kind of a job have PFS and the Staff done in their evaluation of risk at this site?

A. 87. Neither PFS nor the Staff has conducted any type of risk analysis to determine the amount of onsite property coverage to protect human health, safety or the environment.

Q. 88. What is your understanding of PFS's efforts to obtain onsite property insurance?

A. 88. To date PFS does not have a firm commitment for onsite property insurance. In his deposition, Hanson Pickerl, PFS's witness with respect to nuclear property insurance, stated that PFS approached him to determine the level of interest and availability of insurance coverage for the PFS facility. Exh. 29, Pickerl Tr. at 15. Mr. Pickerl's efforts thus far have

been limited to ascertaining from an underwriter its preliminary level of interest; he has not obtained a firm written commitment or premium quote from the underwriter. Id. at 18. Mr. Pickerl said he provided the underwriter with the PFS License Application (*i.e.* Volume 1, not the entire license application) and the address of the PFS web site. Id. at 39. Mr. Pickerl's familiarity with the site is limited to his review of a general map of the proposed site and is not familiar with activities surrounding the site. Id. at 14.

In addition, Mr. Pickerl is unaware of any specific amount of insurance coverage contemplated by PFS, such as the $70 million of onsite property coverage mentioned by Mr. Parkyn, or that PFS is working with any other insurance provider. Id. at 24. By contrast, during his deposition, Mr. Parkyn stated that PFS anticipates it will obtain $70 million in nuclear physical damage and debris removal insurance. Exh. 14, Parkyn Tr. at 130.

Q. 89. What is your understanding of PFS's ability to secure nuclear property insurance coverage?

A. 89. There appear to be two underwriters in the United States that could provide a primary layer of nuclear insurance coverage to PFS. They are Nuclear Electric Insurance Limited ("NEIL") and American Nuclear Insurers ("ANI"). Exh. 29, Pickerl Tr. at 15, 17. PFS does not appear to have approached ANI. Id. at 17. In his deposition, Mr. Pickerl said that NEIL has recently (within the last few weeks) given a preliminary indication of a willingness to provide [redacted] nuclear insurance coverage to PFS. Id. at 15-16. Also, an insurer in the international market has given a preliminary indication that it may offer [redacted] in additional coverage. Id. at 15-16, 43. The preliminary level of interest expressed at this time by NEIL and the international insurer is not a firm commitment but arose out of a "first base" presentation by Mr. Pickerl (or his representative) to the underwriters. Not until the approach of commencement of construction and a definite decision on proceeding with development of the facility will insurers be asked for a firm commitment. Id. at 19.

Q. 90. What is your understanding of the terms of nuclear property insurance coverage?

A. 90. In general, according to Mr. Pickerl, nuclear property insurance covers the same type of physical damage perils that are covered by a non-nuclear policy, with radioactive contamination and cleanup coverage added to it. Id. at 28. Typical exclusions under such a policy include the gradual accumulation of radioactive contamination (that is, something

other than sudden and accidental cause of radioactive contamination from a fortuitous loss), war risks, and damage that was expected or intended on the part of the insured. Id. at 29.

In his deposition, Mr. Pickerl was uncertain whether acts of sabotage were excluded from coverage. Furthermore, it is unclear whether the war risk exclusion would exclude the military training exercises and other military and war-like exercises that take place on the Utah Test and Training Range located next to the PFS site. Mr. Pickerl stated, "the war risk exclusion on a nuclear insurance property insurance policy is intended for war-like action or damage resulting from a declared war, open hostilities or a declared war." Id. at 44.

Mobile assets at PFS such as locomotives or heavy haul trucks would probably not be covered by nuclear property insurance. Id. at 47. It is unclear whether any nuclear property insurance sought by PFS would include property insurance for the Low rail spur or the intermodal transfer facility.

Mr. Pickerl indicated that nuclear property insurance policies are generally for a term of one year, and may include termination clauses which cancel coverage in the event the risk is no longer deemed to be insurable. Id. at 41.

Q. 91. What is your understanding of PFS's justification that nuclear property insurance in the range of $70 million is adequate to provide reasonable assurance that PFS will obtain funds to cover the costs of operating the ISFSI over the planned life of the ISFSI?

A. 91. In his summary disposition declaration, Mr. Parkyn merely states that property insurance in the range of $70 million and nuclear liability insurance would be more than sufficient to cover the cost of accident recovery. Parkyn Dec. at ¶ 21. Mr. Parkyn then attempts to compare necessary nuclear property coverage for the PFS ISFSI with the reduced property insurance requirements for reactor licensees once the spent fuel has been removed from the reactor and placed in an onsite ISFSI proposed in Financial Protection Requirements for Permanently Shutdown Nuclear Power Reactors, Proposed Rule, 62 Fed. Reg. 586,690 (1997). Parkyn Dec. at ¶ 21.

The proposed rule upon which Mr. Parkyn relies specifically states that the rule does not address financial protection requirements for ISFSIs. 62 Fed. Reg. 58,690-91. Moreover, even if NRC had determined that the reduced amounts of property insurance required at a

permanently shutdown reactor as described in the proposed rule was adequate to cover an onsite ISFSI, the nuclear property insurance coverage needed at the PFS ISFSI cannot be equated. For example, the PFS ISFSI is a centralized, away from reactor ISFSI with a storage capacity of 40,000 MTUs of spent fuel, whereas, the storage capacity of an onsite ISFSI at a permanently shutdown reactor will be magnitudes less than 40,000 MTUs. Additionally, unlike an onsite ISFSI at a permanently shutdown reactor where the spent fuel is already in the ISFSI, the PFS ISFSI will continually utilize various structures, systems and components, such as transfer cask equipment, because PFS will continue to receive and/or ship spent fuel throughout the life of the facility.

During his deposition, Mr. Parkyn said the adequacy of the amount of nuclear property insurance was determined by the insurance company, and that the recommend amount was $70 million. Exh. 14, Parkyn Tr. at 132. However, during his deposition, Mr. Pickerl stated he did not recommend an amount of nuclear property coverage to PFS. Exh. 29, Pickerl Tr. at 20. Mr. Pickerl further testified that he is not familiar with the $70 million onsite property insurance coverage referenced by Mr. Parkyn nor does he know how it was derived. Id. at 24. To his knowledge, Mr. Pickerl's firm, Marsh and McLennen, is the only insurance brokerage firm representing PFS in the procurement of insurance. Id. at 43.

Q. 92. Is $70 million the maximum amount of nuclear property insurance available?

A. 92. Apparently not. According to Mr. Pickerl, NEIL has given a preliminary indication that it would offer [redacted] in coverage and an international insurer has given a preliminary indication that it would offer an additional [redacted] in excess coverage. Id. at 15-16. Further, Mr. Pickerl clarified that the [redacted] coverage that NEIL preliminarily indicated that it would offer to PFS is not a maximum amount but a reasonably available level of insurance capacity. Id. at 22. Mr. Pickerl, on behalf of PFS, did not ask NEIL what the maximum amount of nuclear property insurance it would offer PFS nor did he approach ANI about insurance coverage at PFS. Id. at 17, 23.

Q. 93. Does the Staff's Position on insurance and non-routine expenses cause you to change your opinion?

A. 93. No. The Staff's Position considers that PFS's application, with the Staff's recommended license conditions in place, provides reasonable assurance of adequate funding to cover non-routine expenses. The Staff also find that the Applicant will provide

reasonable insurance coverage. The Staff relies on the Applicant's statement that PFS plans to obtain the largest commercial insurance policy available, i.e. $200 million, and property insurance in the range of $70 million for its conclusion. *See, e.g.*, Staff's Response to Applicant's Motion for Summary Disposition, Contention E. The Staff does not reference what documents, if any, it relied upon to take its position with respect to bases 5 and 10, either in the Staff's Position or the SER. Apparently, without any supporting documentation, the Staff believes the Applicant's insurance coverage is adequate. Accordingly, the Staff's position adds no weight to the Applicant's efforts, or lack thereof, to obtain adequate and necessary onsite insurance coverage.

Q. 94. In sum, in your opinion, has PFS provided reasonable assurance that it will obtain nuclear property insurance in sufficient amounts to cover its financial liability as possessor of the spent fuel and to cover non-routine expenses?

A. 94. No. PFS has not justified that the "contemplated" $70 million in nuclear property insurance is adequate to cover non-routine expenses or that such coverage is available to it. First, Mr. Parkyn and Mr. Pickerl presented conflicting testimony about the derivation of the $70 million coverage. Second, there not one iota of evidence to show that $70 million coverage is adequate. Third, there have been only incipient enquiries on behalf of PFS to determine whether coverage larger than $70 million is available. Given the location of the PFS site, such a tentative response is totally inadequate to ascertain what amount of coverage is available to PFS. Fourth, the location of the site also poses a problem as to the scope and renewability of coverage, especially with respect to military activities. Finally, PFS, an uncapitalized limited liability company, has not disclosed any plans to deal with weaknesses in the amount of coverage it may obtain.

In sum, there are no assurances or license conditions which require PFS to obtain any amount of nuclear property insurance much less an adequate amount of coverage.

1 A. I don't have any clerical corrections. I
2 would only mention that some of the testimony -- we've
3 had some testimony, live testimony, and also the filing
4 of other folks' testimony in the interim, and there are
5 probably some points that would benefit from that extra
6 information, but perhaps we can pick that up as we go
7 along.
8 MS. CHANCELLOR: Your Honor, I ask that Dr.
9 Sheehan's testimony be entered into the record as if
10 read.
11 JUDGE BOLLWERK: Any objections? Hearing
12 none, then the testimony of Dr. Sheehan, as identified
13 by counsel, will be admitted and put into the record as
14 if read at this point.
15 [Whereupon, the direct written
16 testimony of Michael F. Sheehan
17 was inserted into the record.]
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1 JUDGE BOLLWERK: All right. Then we have
2 some Exhibits we need to deal with?
3 Q. (BY MS. CHANCELLOR) Yes, I do. Exhibit 9,
4 is this a copy of your curriculum vitae, Dr. Sheehan?
5 A. Yes, it is.
6 Q. And does this consist of 35 pages?
7 A. Yes, it does.
8 Q. And is this true and correct to the best of
9 your knowledge and belief?
10 A. Yes, it is.
11 MS. CHANCELLOR: I request that Exhibit 9 be
12 entered into the record.
13 JUDGE BOLLWERK: The record should reflect
14 that Exhibit No. 9, as identified by counsel, has been
15 marked and identified for the record and the request has
16 been made that it be admitted into the record. Any
17 objections?
18 MR. SILBERG: No.
19 MS. MARCO: No.
20 JUDGE BOLLWERK: Hearing no objection, then
21 State Exhibit 9 is admitted into evidence.
22 [State's Exhibit 9 was
23 marked for identification
24 and received into the record.]
25 Q. (BY MS. CHANCELLOR) State Exhibit 10 is a

1 copy of the License Application, Chapter 1, pages 1-5,
2 and various excerpts from the License Application,
3 concluding with the last page of License Application,
4 Appendix B, page 7-2. Is that correct, Dr. Sheehan?
5 A. Yes.
6 MS. CHANCELLOR: Your Honor, I request that
7 this Exhibit be entered into the record.
8 JUDGE BOLLWERK: The record should reflect
9 that Exhibit 10, as identified by counsel, has been
10 marked and identified for the record. A motion has been
11 made that it be admitted. Any objections?
12 MR. SILBERG: No, sir.
13 MS. MARCO: No.
14 JUDGE BOLLWERK: State Exhibit 10 is received
15 into evidence.
16 [State's Exhibit 10 was marked
17 for identification and received
18 into the record.]
19 Q. (BY MS. CHANCELLOR) Exhibit 11, on the top
20 left-hand corner is the License Application, LA Chapter
21 1, 1-6, in the bottom left-hand corner PFS LA RAI 1,
22 Question 1-3 and consists of three pages. In addition,
23 following that there's PFSF LA RAI 1, Question 1-5,
24 consisting of two pages; PFSF LA RAI No. 1, Question
25 1-7, consisting of one page, followed by a letter from

1 River Bank, LaCrosse, dated April 28, 1998 consisting of
2 three pages, followed by PFSF LA RAI 1, Question 1-8
3 consisting of one page. Is this the extent of Exhibit
4 11, Dr. Sheehan?
5 A. Yes, it is.
6 MS. CHANCELLOR: I request that this be
7 entered into evidence.
8 JUDGE BOLLWERK: The record should reflect
9 that State's Exhibit 11, as identified by counsel, has
10 been marked and identified and a motion has been made it
11 be admitted. Any objections?
12 MR. SILBERG: No, sir.
13 MS. MARCO: No, sir.
14 MR. BOLLWERK: The record should reflect that
15 State Exhibit 11 has been received into evidence.
16 [State's Exhibit 11 was marked
17 for identification and received
18 into the record.]
19 MR. SILBERG: I wonder if there's a way to
20 shortcut this process. We don't have an objection to
21 any of the prefiled Exhibits.
22 MS. MARCO: The staff does.
23 MS. CHANCELLOR: Could we stipulate to --
24 MR. SILBERG: To all the ones that that the
25 staff doesn't have an objection to?

1 MS. CHANCELLOR: Could we stipulate to the
2 admission of all of the Exhibits except those the staff
3 may have an actual objection to?
4 MR. SILBERG: I would so stipulate.
5 JUDGE BOLLWERK: All right. In terms of the
6 record, I would at least like a brief identification of
7 the Exhibit as we move through, for the record.
8 MS. CHANCELLOR: Would you like me to go
9 through and identify each Exhibit for the record?
10 JUDGE BOLLWERK: We may be able -- just do it
11 very quickly. You don't have to go into the kind of
12 detail you're going into. Just so if someone has a
13 question they can look and then match it up with the
14 Exhibit.
15 MS. CHANCELLOR: Exhibit 12 is the updated
16 version of the environmental report consisting of
17 various pages.
18 Exhibit 13 is a PFS RAI response to LA-1.
19 Exhibit 15 is a transcript or excerpts from
20 a --
21 JUDGE BOLLWERK: I think we were at 14.
22 MS. CHANCELLOR: Fourteen, I beg your pardon.
23 Fourteen is excerpts from a transcript from Mr. Parkyn's
24 deposition taken on May 3, 2000.
25 Exhibit 15 consists of excerpts from the

1 Private Fuel Storage Business Plan, I believe it's the
2 1998 Business Plan.
3 Exhibit 16, I believe has already been --
4 JUDGE BOLLWERK: It's been previously
5 identified, that's correct.
6 MS. CHANCELLOR: -- previously identified. I
7 request that that -- Exhibit 16 is the preliminary
8 construction costs for Private Fuel Storage
9 Facility/Railroad dated April 26, 2000 has been
10 previously identified.
11 Exhibit 17 is the Private Fuel Storage
12 Transportation Study dated approximately February of
13 1998. Has that already been admitted, Judge Bollwerk?
14 JUDGE BOLLWERK: That's excerpts of the study?
15 MS. CHANCELLOR: Yes, that's excerpts of the
16 study.
17 Exhibit 19 is a draft document dated February
18 9, Private Fuel Storage Facility Project Design Plan
19 Construction Schedule and Proposed Environmental
20 Permitting Needs.
21 MR. GAUKLER: Denise, did you miss No. 18?
22 MS. CHANCELLOR: Yes. I beg your pardon, I've
23 had to vulcanize part of my file.
24 Exhibit 18 is a July 11, 1996 interoffice
25 correspondence from Stan Macie of Stone & Webster with

1 attached estimates prepared by Carter Concrete Products.
2 Exhibit 19 is a draft document dated February
3 9, 1999. It deals with Private Fuel Storage Facility
4 General Project Description, Planned Construction
5 Schedule and Proposed Environmental Permitting Needs.
6 Exhibit 20 --
7 JUDGE BOLLWERK: Twenty has already been
8 received, as has 21.
9 MS. CHANCELLOR: Twenty-one. Twenty-two,
10 State's Exhibit 22 is a Verified Statement from John
11 Parkyn before the Federal Transportation Board, dated
12 December 30, 1999.
13 Exhibit 23 is a November 25, 1996 Confidential
14 Finance Committee Information from Private Fuel Storage.
15 Exhibit 24 is PFSF RAI, Response, Question 1
16 -- strike that. PFSF LA RAI 1, Question 1-4.
17 Exhibit 25 is a Real Estate Settlement
18 Agreement between PFS and Castle Rock, et.al., dated
19 December 15, 1998.
20 MR. GAUKLER: That's just excerpts of the
21 agreement?
22 MS. CHANCELLOR: Excerpts of the agreement,
23 correct. I believe it's a full agreement with
24 redactions.
25 MR. GAUKLER: Actually, some pages are

1 missing.

2 MS. CHANCELLOR: Oh, yes, you're right,

3 because the signature page is 24. Correct, it's

4 excerpts of the agreement.

5 Exhibit 26 is a Department of Energy document

6 entitled Dry Transfer System, Topical Safety Analysis

7 Report, Volume I.

8 MR. SILBERG: That again are excerpts.

9 MS. CHANCELLOR: I believe these are excerpts.

10 Exhibit 27 are some excerpts from the -- a one-page

11 excerpt from the Amended and Restated Business Lease

12 between the Skull Valley Band of Goshutes and Private

13 Fuel Storage dated May 20, 1997.

14 Exhibit 28 is the Utah Radiation Control Act,

15 Part 3.

16 Exhibit 29, I think it's the full transcript

17 of Hanson Pickerl's deposition dated May 5, 2000.

18 Exhibit 30 is a June 29, 1995 letter from

19 William Reamer from the Nuclear Regulatory Commission

20 discussing non-coverage of the ISFSIs under the

21 Price-Anderson Act. And that completes the Exhibits

22 attached to Dr. Sheehan's testimony. Is that correct,

23 Dr. Sheehan?

24 A. Yes, it is.

25 JUDGE BOLLWERK: The record should reflect

1 that State Exhibits 12 through 15, 17 through 19 and 22
2 through 30 have been marked and identified by counsel.
3 Then the motion has been I think made already to receive
4 these into evidence.
5 MS. CHANCELLOR: I move that all the Exhibits
6 be received into evidence.
7 JUDGE BOLLWERK: Which one do you have an
8 objection to?
9 MS. MARCO: We have an objection to Exhibit 30
10 which is a letter to Mr. Wentz.
11 JUDGE BOLLWERK: From Mr. Reamer.
12 MS. MARCO: And the objection is that it's not
13 an official interpretation from the office of legal
14 counsel so it does not carry legal weight, so it's not
15 relevant.
16 JUDGE BOLLWERK: I think the Board has
17 previously ruled that we overrule that objection in lieu
18 of a motion in limine response to it that we would
19 consider.
20 MS. MARCO: Yes, I understand.
21 JUDGE BOLLWERK: Then you're bringing up your
22 objection again just for the record?
23 MS. MARCO: That is correct.
24 JUDGE BOLLWERK: Any objection from Private
25 Fuel Storage on any of these things?

1 MR. SILBERG: No, sir.
2 JUDGE BOLLWERK: Then State Exhibits 12
3 through 15, 17 through 19 and 22 through 30 are received
4 into evidence.
5
6 [State's Exhibit 12-15, 17-19
7 and 22 through 30 were marked
8 for identification and
9 received into the record.]
10
11 JUDGE BOLLWERK: Anything else?
12 MS. CHANCELLOR: I have nothing further for
13 the witness, your Honor.
14 JUDGE BOLLWERK: Oh, one question. Exhibit 16
15 which had already been identified. Are there any
16 objection to the admission of that? That had been
17 identified previously.
18 MS. CHANCELLOR: April 26, 2000.
19 MR. SILBERG: No objection.
20 MS. MARCO: No action.
21 JUDGE BOLLWERK: I'm sorry, State Exhibit 16
22 should be admitted into evidence as well.
23 [State Exhibit 16 was
24 received into the record.]
25 JUDGE BOLLWERK: Anything else on Exhibits?

1 That should take care of it, right?
2 MS. CHANCELLOR: Nothing further.
3 JUDGE BOLLWERK: Then I believe Dr. Sheehan is
4 available for cross-examination.
5 CROSS-EXAMINATION
6 BY MR. SILBERG:
7 Q. Good morning, Mr. Sheehan.
8 A. Good morning, Mr. Silberg.
9 Q. Just before we start, are you planning to drop
10 any of your testimony or any of the concerns that you
11 have raised in light of the testimony you have heard?
12 A. I don't know that drop would be the right
13 word, but for instance there's a place where I'd say
14 that as of the time of writing that the PFS didn't have
15 something like a quote on the insurance. Certainly at
16 this time we know with Mr. Pickerl's testimony that they
17 have, I think it was called an indication of interest or
18 something like that. So there's that one and there
19 might be -- I think I said that the Tooele County lease,
20 I hadn't seen it at the time that the testimony was
21 written. I have seen it now.
22 Q. You mean the lease between --
23 A. It's probably not a lease. The Tooele County
24 Agreement, sorry.
25 Q. Agreement.

1 A. I think those were the two, but if I come
2 across another one I'll certainly call your attention to
3 it.
4 Q. Or I'll call your attention to it, either way.
5 First, I would like to ask you some questions on your
6 qualifications. I believe you've acknowledged that you
7 are not a cost estimator?
8 A. That's right. That's not my profession.
9 Q. And I think you've also stated that you've
10 never been employed to go out and estimate the costs of
11 a project in the first instance?
12 A. Not as a cost estimator in the first instance.
13 JUDGE BOLLWERK: Do you have a
14 cross-examination plan, by the way?
15 MS. SILBERG: I do. We didn't have enough
16 time before we started to take care of that.
17 JUDGE BOLLWERK: I can't remember how to swear
18 the witness. Now we're even.
19 Q. (BY MR. SILBERG) And I think you have
20 acknowledged that you have never been employed to review
21 design drawings to determine the types of commodities
22 required for construction or the quantities of
23 commodities or the hours needed to do that work?
24 A. That's right.
25 Q. And you have never gone out and priced

1 commodities like concrete?
2 A. I have never gone out and priced commodities
3 like concrete, though I do work with labor.
4 Q. And your work doesn't involve estimating costs
5 of construction projects?
6 A. In the first instance it generally doesn't.
7 Q. And I think you, on your deposition, you
8 indicated that you were not familiar with the standard
9 references for construction cost estimates?
10 A. You're thinking of Means and Richardson? I
11 think my response there was I haven't used them, no.
12 Q. No, I believe your response was that you
13 weren't familiar with them. I'll be happy to show you
14 the transcript.
15 A. I'll accept your representation on that.
16 Q. I think you stated further that you had never
17 even looked at them.
18 A. I hadn't at the time, that's true.
19 Q. And you have never estimated the O&M costs for
20 a nuclear facility?
21 A. Not in the first instance.
22 MS. CHANCELLOR: Clarification. What do you
23 mean by "nuclear facility"?
24 MR. SILBERG: Those are his words at page 43
25 of his deposition transcript.

1 MS. CHANCELLOR: If the question relates to
2 what was in his deposition, that's fine. And it was Mr.
3 Gaukler's form.
4 Q. (BY MR. SILBERG) And I think you also
5 acknowledged that you had never estimated O&M costs for
6 any commercial or industrial facility; is that correct?
7 A. Not in the first instance, once again. I get
8 those costs when they come up for evaluation in various
9 contexts.
10 Q. Is it fair to characterize your methodology
11 for estimating as going through someone else's original
12 documents and asking that person, "Where did you get
13 that number"?
14 A. That's certainly one. It often involves other
15 research and going out and getting comparison figures.
16 Q. Have you done any of that comparison figuring
17 for your testimony here?
18 A. In terms of some things I havé gone and
19 inquired, done research into what the costs might be,
20 yes.
21 Q. And can you give us some examples of that?
22 A. For instance, I have looked into the cost of
23 engineering drawings.
24 Q. Does that appear in your testimony?
25 A. Does the research?

1 Q. Yes.
2 A. I don't think it came up by the time I wrote
3 the testimony.
4 Q. And I think from your resume it's clear that
5 you're not an engineer?
6 A. That's true.
7 Q. And, therefore, not a nuclear engineer?
8 A. Intelligibly.
9 Q. And I think you told us in your deposition
10 that your formal engineering education was limited to a
11 few day course on breeder reactors and you got a
12 certificate for that?
13 A. I did.
14 Q. So I think that it's also intelligible that
15 you have never designed an independent spent fuel
16 storage installation or never planned one?
17 A. That's true.
18 Q. And you've never operated one?
19 A. That's also true.
20 Q. Have you ever visited one?
21 A. I have been by Trojan. It's not built yet,
22 but they are in the process of doing it. I've been
23 around there, but I have not been on the site of one
24 that's actually operating.
25 Q. But you have never -- you're not familiar,

1 then, with how they operate?
2 A. No. I think I'm familiar with how they
3 operate, but I have not been on one.
4 Q. Didn't you testify in your deposition that
5 people would be walking around in space suits loading
6 canisters?
7 A. I don't think I remember that. If you could
8 refresh my recollection.
9 Q. Sure. Page 118 of your deposition transcript.
10 Do you have a copy of that?
11 A. I don't.
12 Q. Would you like one?
13 A. Yes, please. 118?
14 Q. Yes. And I believe at that point in the
15 deposition that you were talking about the need to get
16 specific labor rates and you stated at line three, "but
17 I would assume that when you've got people walking
18 around in space suits and unloading canisters, that
19 that's something pretty specialized." Was that your
20 view as to how these facilities operate?
21 A. I think that I was being a little hyperbolic
22 there. The point I was trying to make was the point
23 that this was probably fairly specialized and skilled
24 labor and it was not just the type of employment force
25 that you would pick off of a desk and train as casual

1 labor.
2 Q. You said "probably pretty specialized"?
3 A. I think pretty specialized if you've got
4 people loading and unloading canisters and given the
5 level of radioactivity you have inside of them you would
6 want to be careful who you hired and how you trained
7 them.
8 Q. Do you think you would need space suits to
9 work around those kinds of canisters?
10 A. I think there may well be -- you probably have
11 people on site in order to deal with emergencies. I
12 wouldn't be surprised if you had space suits there. I
13 suspect not as a routine matter that you would be
14 wearing them.
15 Q. I think you also indicated that you don't do
16 technical analyses on nuclear safety issues?
17 A. "Technical analyses" meaning?
18 Q. It was your term or you agreed to that
19 characterization on page 54 of your deposition.
20 A. Okay.
21 Q. Line 17.
22 A. The question was, "You're not the person that
23 evaluates the probability or the likelihood of an
24 accident to happen?" And my response was "I'm not the
25 guy doing that technical analysis," and then I go on and

1 elaborate on that. So I think that the person who would
2 actually do that kind of analysis in the first instance
3 is probably a person like Marvin Resnikoff and not me.
4 Q. And you don't estimate accidents or their
5 probability?
6 A. Generally not, no.
7 Q. You said "generally not." Have you ever
8 estimated accidents and their probabilities?
9 A. Not in this context. I have some academic
10 work on risk and things like that.
11 Q. Well, risk is probability times consequences,
12 correct?
13 A. Risk is the probabilities. Uncertainty would
14 be when you didn't know the probabilities and risk times
15 outcome would be the expected value.
16 Q. And the probabilities, you said you're not a
17 guy who figures in probabilities, right?
18 A. That's correct.
19 Q. Have you ever estimated the radiological
20 consequences of accidents?
21 A. I have not estimated the radiological
22 consequences, although I'm familiar with some of that
23 literature.
24 Q. Have you ever estimated clean-up from
25 radiological accidents?

1 A. I'm thinking of the HRI case. I don't think
2 so, though that certainly was an issue down there.
3 Q. I think you're correct.
4 A. Okay.
5 Q. At your deposition you testified that the
6 nuclear cases you had worked on were rate cases for
7 Union Electric's Callaway plan, the Hydro Resources, the
8 HRI mining case, the LES case, and then the Nebraska Low
9 Level Waste case involving American Ecology; is that
10 correct?
11 A. At Boyd County, yes.
12 Q. Yes.
13 A. I did a little work on Oyster Creek. I have
14 also done a little work on the consequences of the
15 Marble Hill close to bankruptcy, as you see in the vita.
16 Q. But you didn't identify that in your
17 deposition as one of the nuclear cases you worked on?
18 A. It wasn't in the sense of -- it was with
19 respect to the consequences of the case. So you're
20 correct.
21 Q. The consequences of the financial bankruptcy?
22 A. Almost bankruptcy.
23 Q. Almost bankruptcy. And on the Nebraska case,
24 you said that the issues there were not so much
25 estimating the costs, but rather the safety issues

1 around the facility?
2 A. That -- I think that was in the context of
3 providing analysis of the safety issues as it related to
4 Nebraska rules on that. So I think so. I don't have
5 that exactly clear in my mind. It's been a little
6 while, but --
7 Q. If you look at page 41 of your deposition at
8 line 7 -- at line 7.
9 A. Forty-one?
10 Q. Yes. It's tough since there are four pages to
11 a page. Line 7.
12 A. "So it was not so much estimating how much it
13 cost for a yard of concrete, it was safety issues around
14 the facility and how it fit in, what the issues were
15 going to be in the regulatory framework in the case,"
16 yes.
17 Q. Did you actually determine the safety issues
18 of the low level waste facility?
19 A. I did not. Depending on what you mean by
20 "determine," but what I would mean, I would say no.
21 Q. And in Callaway, the issue there was whether
22 the capacity, generating capacity was available that
23 would make Callaway unneeded and not the cost of the
24 facility; isn't that correct?
25 A. I wouldn't say that. The issue was whether or

1 not the cost of the facility was such that in comparison
2 to other available generation that Callaway was unneeded
3 because it was uneconomical.
4 Q. Now, did you determine the cost of the
5 facility or did you take the number provided by the
6 applicant in that case?
7 A. I don't have a clear recollection of it.
8 Probably the latter.
9 Q. In other words, you took the applicant's cost?
10 A. Probably that makes sense that's what I would
11 have done because we were comparing it with other
12 available resources.
13 Q. If you'll bear with me for a minute, I just
14 want to show you something so we can confirm that on the
15 record. If I could approach the witness?
16 JUDGE BOLLWERK: Yes.
17 Q. (BY MR. SILBERG) What I'm showing you is the
18 direct testimony in Exhibits of Dr. Michael Sheehan on
19 behalf of the City of Keokuk in the State of Iowa,
20 before the Iowa State Commerce Commission. The docket
21 is Union Electric Company, RUP 85-9, the testimony is
22 July 1985. And did you say at page 12, line 15, that
23 "The dollar figure," the capital cost figure, "for
24 Callaway is from the company's filing"?
25 A. Yes.

1 Q. Thank you. Now, in that case you also decided
2 to use a capacity figure of 56 percent for the Callaway
3 plant in projecting how it would operate, did you not?
4 A. Well, let's have a look. Yes. What I say at
5 that point is, On the other side of the coin, the ESRG
6 Rosen study uses a similar operation and showed the
7 capacity factor at 56.7. Hellman & Hellman is another
8 source, and they found that the 55 was a reasonable
9 number. Given the substantial variation in claims, I
10 have used the industry average provided by Rosen in
11 preference to the company figure of 52.9 which I used in
12 the Illinois case also involving Callaway for the cost
13 computations.
14 So you recall there were two sets of figures.
15 So in answer to your question, in this one I used that
16 figure and in the other I used the company's figure.
17 Q. Have you followed what's happened to Callaway
18 since you gave that testimony?
19 A. Well, it was 15 years ago and I'm afraid I
20 haven't.
21 Q. Let me show you a document, it's an official
22 letter from Amoron UE, which I think you will recognize
23 as the successor company to Callaway, USNRC in January
24 of this year, with their monthly operating report for
25 December 1999, and does this show for a cumulative

capacity factor, that depending on which methodology you use in a lifetime, it's either 85 percent or 82 percent?

A. It does. But of course this is January 13, 2000 and the testimony is from 1985.

MS. CHANCELLOR: Objection to this line of questioning. I'm not sure where Mr. Silberg is going with this.

MR. SILBERG: We're just putting into the record some of the inaccuracies in Dr. Sheehan's predictions.

MS. CHANCELLOR: Inaccuracy from 15 years ago?

MR. SILBERG: Compared with what actually happened, correct.

JUDGE BOLLWERK: Again, I guess there's an objection pending. Anything you want to say about it other than what you already said?

MR. SILBERG: That's the line of questions on this issue.

JUDGE BOLLWERK: I think what this question goes to is the weight and I see what he said.

MS. CHANCELLOR: If Mr. Silberg is finished with that line of questioning, fine, your Honor.

Q. (BY MR. SILBERG) In the LES case, I believe you said that you assisted Mr. Osterberg in that case and you didn't testify yourself?

1 A. That's true.
2 Q. Did his testimony have anything to do with the
3 costs of constructing the LES facility?
4 A. I think that what we did in the main, he and I
5 was -- I don't have a clear picture of the testimony in
6 my head. If you have a copy of the testimony I would be
7 glad to look at it.
8 JUDGE BOLLWERK: Why am I not surprised.
9 THE WITNESS: (Reviewing document.) The
10 purpose of David Osterberg's testimony is that he will
11 address contention so and so, need for the facility and
12 the no action of senators. The purpose of my testimony,
13 he says, is to discuss his analysis and the need for the
14 proposed Claiborne Enrichment Center is inadequate and
15 that the discussion of the no action alternative as
16 required under NEPA has all but been ignored. Then he
17 goes on to talk about Contention Q which pertains to
18 financial qualifications, as here, relates to my
19 testimony herein regarding the alleged need for CEC.
20 Q. (BY MR. SILBERG) Now, did the testimony on
21 financial qualifications go to the cost estimates for
22 the LES facility, construction costs estimates?
23 A. I think that this goes primarily to the
24 revenue side of the question of financial qualification.
25 Q. And I think you testified, you said you

1 testified in the Hydro Resources proceeding?
2 A. Yes, in New Mexico.
3 JUDGE BOLLWERK: Also known as HRI.
4 Q. (BY MR. SILBERG) HRI. And I think you said
5 that case was on appeal to the commission?
6 A. I think so. I'm not 100 percent certain of
7 that, but I think I heard that.
8 Q. Are you aware what the commission did on that
9 appeal?
10 A. Well, assuming then that there is an appeal.
11 I think that there was an order in that case. Whether
12 there's still an appeal pending, I don't know, but I
13 understand that there's been a recent decision.
14 Q. Are you aware that the commission order in
15 that case dated May 25 stated that "We agree with the
16 presiding officer that Dr. Sheehan's testimony is
17 unconvincing"?
18 A. I think --
19 Q. If I can approach I'll just show him the
20 portion of the decision.
21 MS. CHANCELLOR: Could you give us the date of
22 that decision?
23 MR. SILBERG: May 25.
24 MS. CHANCELLOR: What's the CLI number?
25 MR. SILBERG: OO-08.

1 THE WITNESS: The part you appear to be
2 referring to is the NRSB's language here dealing just
3 with the issue of how much -- how many -- how much water
4 needs to be run through the aquifer in order to clean
5 it. In other words, just one of the number of the
6 issues, as I recollect, in this case. It says that "We
7 interpret the Presiding Officer's language not as
8 chastisement, but merely as a finding that intervenor's
9 analysis and expert testimony were not as convincing as
10 those of the staff on the issue of groundwater
11 restoration." Which was an issue, as I recollect, a
12 very small part of my testimony. It says that "Dr.
13 Sheehan's testimony is unconvincing. Dr. Sheehan's
14 attempt to establish the insufficiency of the nine pore
15 volumes is comprised of nothing more than a brief
16 footnote geographically, alluding summarily to the fact
17 that two other ISL prospects required significantly more
18 pore volumes. Dr. Sheehan does not indicate why the two
19 other ISL projects were geographically analogous to the
20 Crownpoint Uranium project, nor does he address the pore
21 volumes needed to restore the aquifers at any other ISL
22 project."
23 That's true, they did say that. It was a
24 small part of the issues addressed in my testimony.
25 Q. Did your testify or did the other parts of

1 your testimony deal with the construction cost
2 estimates?
3 A. Certainly the testimony in the NEPA part dealt
4 with cost issues.
5 Q. Did it deal with construction cost estimates?
6 A. Well, if you've got it I'm happy to look at
7 it.
8 JUDGE BOLLWERK: Actually, I think it dealt
9 with decommissioning cost issues.
10 Q. (BY MR. SILBERG) Is the question of pore cost
11 a decommissioning issue?
12 A. The question of pore volumes is how much water
13 it takes to clean the aquifer and so leaves your site,
14 your aquifers unimpaired when the operation is complete.
15 Q. And isn't it true in this case that you simply
16 ratioed up the cost to your nine pore volumes from four
17 pore volumes and simply assumed it was a lineal
18 relationship?
19 A. That's with respect to the pore volumes, but
20 we have other costs at issue.
21 Q. With respect to the pore volumes, isn't that
22 how you determined your costs --
23 MS. CHANCELLOR: Asked and answered, Your
24 Honor.
25 Q. (BY MR. SILBERG) I don't believe I got an

1 answer to my question.
2 A. Could you direct me to where in this testimony
3 you're referring to. I say in this, "First, we know
4 that the restoration/reclamation cost figures presented
5 by HRI were based on four pore volumes. However,
6 license condition 9.5 establishes that nine pore volumes
7 is the appropriate figure. Even if we assume the
8 staff's nine pore volume figure is correct, the HRI's
9 cost estimate will have substantially understated the
10 appropriate amount. Given HRI's calculation of $28
11 million for four pore volumes, and assuming proportional
12 costs for each succeeding pore volume, nine pore volumes
13 would require a restoration/reclamation cost figure of
14 at least $63 million."
15 Q. You're not a hydrological engineer, are you?
16 A. I am not.
17 Q. So what's the basis for assuming that those
18 costs are simply proportional?
19 A. The proportion, the assumption of
20 proportionality was, as I recollect, for want of a --
21 any additional or better data in there, it was the best
22 that was available, as I remember.
23 Q. The best that was available to you as a
24 non-hydrologist?
25 A. As someone dealing with costs.

1 Q. Moving to a different topic, that of
2 insurance, I think you said that this case was the first
3 time that you've been involved in evaluating the
4 availability of nuclear insurance?
5 A. Excuse me, Mr. Silberg, did you want that?
6 Q. No, you can keep that.
7 A. I'm sorry, your question was this the first
8 time I have been involved in insurance?
9 Q. Involved in evaluating the availability of
10 nuclear insurance.
11 A. This is the first case.
12 Q. Didn't you say this was the first time in your
13 deposition?
14 A. That could be.
15 Q. If you look at page 63, line 24, and page 64
16 line 8.
17 A. 63?
18 Q. Yes, line 24.
19 A. "Have you ever been involved in evaluating the
20 availability of insurance to cover the risks at a
21 nuclear facility?
22 Involved other than as a researcher? Well,
23 involved to the extent, as I say, I want to write this
24 paper and I've been collecting the materials for that.
25 And then I've been involved in this case with these

1 insurance issues which have been an area of particular
2 interest to me because I want to do this other work. So
3 I guess the answer -- I guess that's the answer to your
4 question."
5 Q. Thank you.
6 A. Sure.
7 Q. And you testified that you're not sure how
8 nuclear insurance premiums work generally, and
9 especially with especially to an independent spent fuel
10 storage installation?
11 A. That's true.
12 Q. And other than your efforts in this case, you
13 have never evaluated insurance premiums for nuclear
14 facilities?
15 A. Could we fall back a second?
16 Q. With --
17 A. The previous question, where is that?
18 Q. Where you said you're not sure how nuclear
19 insurance premiums work generally?
20 A. Yes.
21 Q. If you look at page 65, lines 4 to 7.
22 A. Okay.
23 Q. There you stated "I'm not quite sure how the
24 premiums work, especially with respect to an ISFSI and
25 especially with respect to a unique facility like this."

1 A. Okay. The question was so outside of this
2 case you have not looked at the premiums charged to, is
3 that a correct summary of your answer? Answer, other
4 than my work on Price-Anderson, a little bit of looking
5 into the TMI stuff in respect to my paper, so I know a
6 little bit about the structure of Price-Anderson and
7 that, but in terms of the 200 million and insurance
8 pool, yeah, I'm not sure how those premiums work,
9 especially with respect to an ISFSI and especially with
10 respect to a unique facility like this.
11 Q. Then you went on to say you have never worked
12 on any case evaluating the premiums for a nuclear
13 facility other than in this case?
14 A. That's right.
15 Q. And you've never had any direct experience
16 with nuclear insurers?
17 A. No direct experience, no.
18 Q. And none with nuclear insurance pools, other
19 than knowing that they exist?
20 A. At this point I know a little bit more about
21 it, but as of the time of the deposition, that's true.
22 Q. And I take it you've also never evaluated risk
23 scenarios with respect to insurance for nuclear
24 facilities?
25 A. I think we already discussed that and the

1 answer is still yes.
2 Q. Is it true that you've never evaluated the
3 proper amount of contingencies for a construction cost
4 analysis?
5 A. Do you have a reference?
6 Q. Well, you can tell me whether you agree or
7 not, but that's what you said at page 196, lines 18
8 through 20 of your transcript.
9 A. Yes, I generally am not involved in that stage
10 of the procedure.
11 Q. And would you agree that all you need to
12 budget for are things that are reasonable?
13 A. Certainly all you need to budget for are
14 things that are reasonable. The issue would be what is
15 reasonable.
16 Q. Correct.
17 A. And I certainly have done work with respect to
18 contingencies and carryovers and other contexts.
19 Q. When I read your testimony I was struck by a
20 number of things. One is that one of the most
21 frequently used words in your testimony is the word
22 "hard" and you usually use it in quotes when you talk
23 about "hard cost estimates." And I counted a couple of
24 dozen times, I think, that that term usually shows up
25 and it's usually in quotes. Why is it in quotes?

1 A. My recollection, hard cost estimate is, I
2 believe, from the LES decision, but if you've got the
3 cite for it I'm happy to see it.
4 Q. I was asking you because you used it and put
5 it in quotes and I was wondering why it was in quotes
6 and where you got it from.
7 A. I think it was the LES decision or some other
8 decision like LES. Somewhere else in this series of
9 cases that has been used, "hard cost estimate" or
10 something of the sort. And so I was using it to denote
11 something that was firm and not preliminary or
12 conceptual.
13 Q. Is that really what the commission had in mind
14 what they used that term in the LES case?
15 A. I'm not in the mind of the commission. I
16 would be happy to look at something that sets forth what
17 they had in mind.
18 Q. I can only show you the decision, but I think
19 it's pretty clear from the decision. But let's look at
20 the decision.
21 A. What am I looking at?
22 Q. Look at where I have highlighted in yellow at
23 page 306.
24 JUDGE BOLLWERK: Can you give us a line
25 number?

1 THE WITNESS: I do have copies of the decision
2 if anybody is interested.
3 MS. CHANCELLOR: What page are you on?
4 Q. (BY MR. SILBERG) Page 306?
5 A. Where am I looking, Mr. Silberg?
6 Q. The first full paragraph, line 9.
7 A. "The licensing board"?
8 Q. Yes. And then the footnote.
9 JUDGE BOLLWERK: Just for the record, the
10 decision is found at 46 NRC 294.
11 Q. (BY MR. SILBERG) Now, you interpret that use
12 of the term "hard construction cost estimate" to mean
13 that the estimate has to be firm or precise or definite;
14 is that how I understand your use of that term in your
15 testimony?
16 A. Not quite. It has to be reasonably firm and
17 precise and not unreasonably unfirm and imprecise.
18 Q. Isn't it true that when the cómmission uses
19 that term they're distinguishing between the costs of
20 construction and other costs which may be characterized
21 as perhaps soft costs, such as interest accrued during
22 construction financing costs and decommissioning costs?
23 A. Well, I'm a little bit at a disadvantage
24 because I'm not certain that this is where I got that.
25 So what they're talking about here, which I haven't yet

1 read, I'm not certain that this is the context in which
2 I took that term.
3 Q. Why don't you take a few minutes because I
4 think this is an important point.
5 A. (Reviewing document.) Looking at what I think
6 you want me to look at, which is the first full
7 paragraph in the footnote, I don't put your spin on it.
8 Q. Well, doesn't it say in the first sentence of
9 the first paragraph, it says, "Hard construction costs
10 of the CEC," which I assume is the Claiborne Enrichment
11 Facility, "are in 1997 dollars and include" --
12 JUDGE BOLLWERK: 1992.
13 Q. (BY MR. SILBERG) I'm sorry, 1992. Everyone
14 is having problems with dates.
15 A. I'm sorry, you're in the footnote?
16 Q. In the footnote. When they use the term "hard
17 construction costs" in the footnote, isn't it obvious
18 they're not talking about construction costs that are
19 reasonably precise, but they're talking about a certain
20 type of construction costs? In fact, isn't it true that
21 that sentence doesn't use the term "hard estimates," but
22 it's rather the adjective "hard" in conjunction with
23 costs? Isn't that true?
24 A. Well, it's using "hard" as an adjective in
25 conjunction with construction costs, not some costs

1 other than construction.
2 Q. Correct. But it's not talking about "hard" in
3 terms of the type of estimate; isn't that true?
4 A. I -- it doesn't use -- it's not using the word
5 here -- well, let's look at the top of the paragraph
6 that the footnote is attached to. "The licensing board
7 did not question LES's hard construction cost estimate."
8 So when you say it's not used in conjunction with the
9 word "estimate," certainly they didn't use the word
10 "estimate" in the footnote, but they used the word
11 "estimate" in the text.
12 Q. But how do you know that the estimate there
13 was hard or soft? It was undisputed.
14 A. Well, our discussion here is -- relates to how
15 the licensing board was characterizing something and
16 what they're characterizing is the hard is adjoined to
17 construction cost estimate.
18 Q. Except when you look at the footnote in which
19 "hard" is conjoined with construction cost?
20 MS. CHANCELLOR: Objection, Your Honor, I
21 believe the witness has answered the question. Maybe
22 it's not the answer Mr. Silberg wants, but he's answered
23 the question.
24 MR. SILBERG: Well, I still haven't heard
25 where the witness has got the term from. He's used it

1 throughout his testimony in quotes and he can't tell us
2 why it's in quotes or where it originated from.
3 MS. CHANCELLOR: But badgering the witness
4 about what the commission had in mind for hard
5 construction cost estimates in their decision, I believe
6 the witness has answered that question.
7 MR. SILBERG: I would like the witness to tell
8 me why he put it in quotes and what the basis for those
9 quotes is so we can tell whether that term in his
10 testimony has some meaning or it's just his idea.
11 JUDGE BOLLWERK: You have no objection to that
12 question, I take it?
13 MS. CHANCELLOR: I'm sorry, could you repeat
14 the question?
15 Q. (BY MR. SILBERG) The question is, when you
16 used the term "hard cost estimates," are you using that
17 term because you believe that the NRC commissioners have
18 adopted that term or because you thought that was the
19 right kind of term to use?
20 MS. CURRAN: Can you point him to the first
21 place he uses the term and that might help.
22 MR. SILBERG: The first place I noticed --
23 MS. CHANCELLOR: I believe it was page 9.
24 MR. SILBERG: I have page 8.
25 MS. CURRAN: Try page 8.

1 MR. SILBERG: But it's in here at least a
2 dozen places.
3 MS. CHANCELLOR: In answer to question 16,
4 paragraph 2.
5 MR. SILBERG: I'm sorry, I'm using the prior
6 version.
7 MS. CHANCELLOR: I think the pagination should
8 be the same.
9 THE WITNESS: I say in that, "There are
10 underlying premises in there that must be met" --
11 Q. (BY MR. SILBERG) I'm sorry, I'm looking for
12 where you say that.
13 A. The second paragraph of 16.
14 Q. That's not on my opinion, but okay.
15 A. "In my opinion, there are certain underlying
16 premises that must be met before a cost estimate may be
17 covered firm or hard."
18 Q. Both of which words you use in quotes?
19 A. I do. "Such that the license conditions may
20 be evaluated against them. The outcome must describe,"
21 and then I go down and break it down here.
22 Q. And my question has to do with your use of
23 those two words, "firm," which I believe also is used in
24 the LES case, and "hard," both of which you use in
25 quotes as if to signify some special meaning to those

terms.

A. What I'm setting up here is, one, the words, as I said earlier, do come, at least in part, from a NRC decision somewhere, perhaps this one. But secondly, the reason I used it in quotes a number of places was so people would know I was using it in the same sense throughout and it was not being used colloquially in different places.

Q. You mean the only time you used words in the same sense throughout and not colloquially was when you put them in quotes?

A. No, I'm not saying that, Mr. Silberg. What I'm saying is I want to call attention to the use of the word and so we're talking about the same thing when I'm using those words. In different places where I think the estimates are imprecise or preliminary, I want to be able to refer to it in this way and so I have called attention to those words in quotes.

Q. Let's go to your question and answer 24 and check. I'm using your prior version.

A. Do you want this LES decision?

Q. You may have that as a souvenir. We've unfortunately destroyed many forests in preparing for the hearing.

A. I'm sorry, what page?

1 Q. I'm sorry, it's answer 24. It's on my page --
2 MS. CHANCELLOR: It's page 15.
3 Q. (BY MR. SILBERG) It's page 15. And there you
4 say --
5 A. Hold on, hold on. Answer 24?
6 Q. Answer 24. You say that it's required that we
7 have bona fide cost underlying data. It's in the
8 first --
9 A. Yes, I have it.
10 Q. Yes, sir. First, is there any NRC law or
11 requirement that that phrase comes from?
12 A. I'm not quoting it out of a statute or rule,
13 if that's your question.
14 Q. You say it's required and I was just wondering
15 where that requirement came from.
16 A. Well, what I say, as I testified earlier, hard
17 or firm construction cost estimates are required. It
18 seems to me that coming from that this is the NRC's use
19 of the term and, secondly, that it's reasonably required
20 that, that you don't want to have construction cost
21 estimates that are not based on some reasonable
22 underlying data. They're not things to be just be drawn
23 out of the ether.
24 Q. So you're saying they are hard and firm
25 requirements?

1 A. I'm saying they are reasonable requirements.
2 A reasonable person looking at the rule and perhaps the
3 NRC language from the LES would, in my view, say that
4 you would have to have something substantial, some
5 substantial data underlying an estimate, that you could
6 not -- it's not just a hypothetical out of the ether.
7 Q. I mean, that's your interpretation as opposed
8 to pointing to a regulation or commission decision?
9 A. If your question is did I get those very words
10 out of a regulation or commission decision, what you
11 said is true. If the -- do I think having read the
12 commission rules on this that this is certainly
13 consistent and logical extrapolation of what is
14 required, that is also true.
15 Q. Well, isn't it true that what you need to be
16 sufficient is to provide credible support for the
17 estimation of cost?
18 A. I don't find that inconsistent with this
19 language.
20 Q. So if one had credible support for cost
21 estimates that would meet your test?
22 A. Depending on what it actually was. We would
23 have to look at it. We could differ as to what that
24 meant.
25 Q. But as a standard you wouldn't have a problem

1 with credible support?
2 A. I suppose I would like to see the context of
3 the standard in its natural setting.
4 Q. Supposing it's your language?
5 A. Then point it out to me and perhaps I'll be
6 able to say what I meant there.
7 Q. Showing you your written testimony in the
8 Hydro Resources proceeding dated January 7, 1999, and on
9 page 11 you said, "At a minimum the relevant data has to
10 be gathered, and it has to be sufficient to provide
11 credible support for the estimation of costs of
12 decommissioning and restoration," and then it goes on.
13 A. Yes. In the context of restoration and
14 decommissioning, certainly. So, I'm sorry, your
15 question then was tying that term with respect to
16 decommissioning and restoration, which happened at the
17 far end of the estimation of what's required to
18 construction costs that are soon or immediately
19 available here? I mean, we're talking about two
20 different -- well, each end of a project here.
21 Q. Isn't decommissioning cost estimates one of
22 the issues here?
23 A. The decommissioning cost estimates are one of
24 the issues, but there decommissioning costs are at the
25 far end of the project and, of necessity, the estimates

1 are not going to be able to be as firm 40 years hence,
2 as the situation here where Mr. Parkyn has testified
3 that in the very near future he intends to have the
4 bids.
5 Q. And if in the very near future he has the
6 bids, presumably that would satisfy your need for the
7 hard, firm cost estimates?
8 A. I think the bids are certainly, since they are
9 to be available, according to Mr. Parkyn in the next two
10 years or so, that as this process is just winding down
11 that those would be the things to use because then you
12 have you have Turner and Ayers out there who have said
13 this is what we'll do the work for. That is the best
14 data that is immediately available and it will give you
15 real world information current at the time with a
16 commitment behind it.
17 Q. The standard that the NRC has is one of
18 reasonable assurance, isn't it?
19 A. Yes, sir.
20 Q. And it wouldn't be consistent with a
21 reasonable assurance standard, would it, if you have to
22 resolve all of the major uncertainties ahead of time?
23 A. I think it is consistent with the reasonable
24 assurance that if you are reasonably able to resolve an
25 uncertainty, if you are reasonably able to do that with

1 minimum expense and in the near future, it would not be
2 reasonable to use a conceptual estimate instead of the
3 data which resolved it definitively, which was
4 immediately or soon to be available.
5 Q. Even if that data turned out to be reasonably
6 accurate?
7 A. I'm sorry, we were talking about two sets of
8 data. Which one are you referring to? We have the
9 preliminary data and then we have the data from the
10 actual bids.
11 Q. Yes. And if the data from the first set of
12 information turned out to be reasonably accurate you
13 still would reject that because further on down the line
14 you have actual data?
15 A. No. When you say that it turned out to be
16 accurate, you would only know how it turned out at the
17 time that you got your bid, and at which point you would
18 have the bid information. That's what you would compare
19 for accuracy. At that point you would have the actual
20 bids which are the real number. So why don't you just
21 use them?
22 Q. Well, we will. But in the meantime we have
23 estimates, do we not, that have been prepared by expert
24 estimators, and if those are judged to be reasonable
25 estimates, why does one have to wait for the precise

1 definition of the dollars and cents that might not take
2 place for a year or two?
3 A. I'm glad you asked. The answer is that Mr.
4 Parkyn does not intend to actually construct this for a
5 year -- you know, to the time that the NRC resolves this
6 case, he says in approximately November of 2001, he's
7 proposing to set this thing up for bid three to six
8 months prior to that and have the bids back at the time
9 the board makes its decision.
10 So at the time the board makes their decision
11 and he comes in to meet the first license condition, he
12 will have the bid information, which is the best
13 information at that point. Why would you choose to use
14 the estimates from two years before when at that point
15 that he satisfies the license condition he will have the
16 bids and he will know definitively what the costs are.
17 Q. Well, didn't Mr. Parkyn say that he would
18 update, when we submit to the NRC staff for compliance
19 with the license conditions, we will use the most
20 currently available data we have? Didn't he say that?
21 A. I believe what he said, and there is -- Mr.
22 Parkyn has said a couple of different things as this
23 case has evolved. Mr. Parkyn in one place suggests he
24 would use the bids, which I think is correct. In other
25 places he has talked, and I think in his testimony, he

1 has talked about updating using the escalators, the
2 estimates from now that Mr. Gase and Takacs were talking
3 about yesterday. But there is no reason if he's talking
4 about just updating these preliminary estimates and
5 using them at the time that the bid information becomes
6 available, why do that? You have at that point the bid
7 information.
8 Q. Isn't it true that there will be a number of
9 items for which you may not have bid information when
10 construction starts? We're talking about a 40-year
11 project.
12 A. In Mr. -- the license condition requires that
13 you make a showing that you have enough money to cover
14 the cost at the time that you plan to come in to meet
15 the license requirement. As that point, as I understand
16 it, Mr. Parkyn plans to build at least a [redacted] MTU
17 facility, and I understand that he has to make a showing
18 that he has to show he has enough commitments to build
19 whatever size he intends to build at that time. I do
20 not understand that the license requirement requires
21 that he show that he will have enough money to build
22 Phase III 10 or 20 years later.
23 Q. So we can't start construction, in your view,
24 until we have bids have that been accepted for every
25 piece of work on that project for that first phase; is

1 that your view?
2 A. My understanding is that, listening to Mr.
3 Parkyn yesterday, and I think the day before, is that
4 he's telling us that he plans to be ready to go, have
5 the bids out at the time that the NRC or the licensing
6 board is considering the issuance of the license, he
7 plans to have the bids out three to six months, he said,
8 before the decision is rendered in this case so that he
9 is ready to go to build it, start building it as soon as
10 the license is issued.
11 If he's going to start building it as soon as
12 the license is issued, I can't imagine -- and he's going
13 to send the bids out three to six months before that
14 date, I can't imagine why he wouldn't bid it all for the
15 stuff he's going to need and finish construction in 24
16 months. He said he would finish construction in 24
17 months and it would take 24 months to finish
18 construction.
19 Q. You also heard the testimony that bids may
20 only be held valid for 30 to 60 days?
21 A. I don't remember him saying 30 to 60 days.
22 Q. It was a short period of time.
23 A. Certainly there's some period during which
24 bids are valid. He, as I understand it, was saying he
25 was going to send the bids out 30 to 60 days prior to

1 the NRC's rendering its decision. So I think that he
2 has, in that sense, a coherent timing package and he
3 plans, according to his testimony, to start construction
4 as soon as the panel issues its findings and he's ready
5 to go. The plan was, he's going to start in November of
6 2001. He will have to have those bids if he plans to
7 start.
8 Q. Let's talk about that start of construction
9 date. One of the elements in your testimony where you
10 said we have a lot of uncertainty was that we had no
11 firm date for construction. Having heard Mr. Parkyn's
12 testimony yesterday, are you willing to withdraw that
13 portion of your testimony?
14 A. I'm not. I don't agree at all that that is
15 correct because Mr. Parkyn has also testified that he
16 has zero signed service agreements. Unless he's
17 thinking that he has other kinds of commitments of some
18 sort, he's made no showing at all that he has any
19 service agreements. He said he has no service
20 agreements. So I don't understand, and it is one of the
21 uncertainties, as you properly characterize this, is
22 that how can he be saying he's going to start -- going
23 to start construction in November of 2001 where he has
24 testified he does not have a single, he has zero, not
25 one signed service agreement as of this date.

1 Q. And how many months do we have between this
2 date and the start, projected start of construction?
3 A. We have -- the construction is supposed to
4 start in November of 2001 and so that is --
5 Q. About a year and-a-half?
6 A. About a year and-a-half, that's true.
7 Q. And your testimony is that there's no way that
8 you will say that you don't believe that Mr. Parkyn can
9 have signed service agreements sufficient to meet this
10 condition by November 30?
11 A. No, I'm not saying that at all, Mr. Silberg.
12 You're not listening.
13 Q. I'm listening very closely.
14 A. Let me say it again. I mean no offense by
15 that. Mr. Parkyn has said, and we have plenty of
16 evidence in the documents that you folks have turned
17 over, that you are going to conduct, PFS is going to
18 conduct -- begin their marketing survey in the middle of
19 1998 and then they stated not to. They started with 14
20 partners in this project and now they are down to
21 either -- I think seven.
22 Q. Eight.
23 A. Eight? But you're also selling -- GPU is
24 getting rid of Oyster Creek and one of the TMI's and
25 you've got one new one and Clinton left, Illinois Power

1 left. So it's come down from 14.
2 Q. Actually, it started with 33, but that's
3 beside the point.
4 A. I agree with you, it started with 33. You
5 have abandoned the 1998 marketing survey, you have --
6 we've asked him repeatedly on different occasions
7 whether he had any marketing agreements and he has said
8 no. And so I'm not saying that as a matter of my
9 determination that there's not going to be, but I'm
10 saying that there is not one git of evidence that there
11 is any indication that there's going to be even one at
12 the time of construction. We've asked that question a
13 number of times and each time he has said he has zero
14 and he has no commitments.
15 Q. He has zero what?
16 A. Service agreements.
17 Q. When?
18 A. As of the time of the asking the question.
19 Q. And can he start construction without service
20 agreements?
21 A. He cannot construction.
22 Q. Therefore, isn't it true that he is confident
23 that he will have sufficient service agreements by
24 November 2001?
25 A. He is, apparently. I don't know. I mean,

1 that's what he's telling us. I'm not saying that he's
2 not telling us what he really thinks, certainly.
3 Q. And your reason for the discounting of that
4 testimony is your expert knowledge of the market?
5 A. My reason for discounting that, as you know,
6 my reason for discounting is that is that he has told us
7 he had none. Secondly, that the number of partners has
8 been steadily declining over time. The abandonment of
9 the marketing effort in 1998 and the recent indication
10 that it has not been resumed as of this hearing and that
11 there is no evidence, despite our repeated requests, and
12 we have asked -- you know, we have gone round and round
13 to see the service agreements, we have asked all of
14 these questions repeatedly, and there's not a scintilla
15 of evidence of any progress with respect for service
16 agreements signings.
17 Q. Since marketing is not a relevant issue in
18 this case, the fact that you don't have any information
19 on it doesn't necessarily mean there isn't information,
20 it just means it's not a relevant information in this
21 case and you're not entitled to that information.
22 A. Well, actually, as I've just described to you,
23 I do have some information on it because I have your
24 board meetings back when and other documents saying you
25 were going to start your marketing effort in the middle

1 of 1998, I think it was, and then there were others
2 saying you were abandoning the idea of having the market
3 surveys done.
4 Q. So as far as you're concerned, we've had no
5 conversations with anyone to determine who would be
6 interested in signing up?
7 A. I didn't say that at all. I have only said,
8 and I believe that you have that conversation, and isn't
9 that interesting because you have had those
10 conversations, that's evidence in the record of this
11 case -- or in the documents I have from the company and
12 there has been no product out of it. Even though you've
13 had all those conversations over the course of time, you
14 have not come up with a single, not a single signed
15 service agreement, given all that effort, and we have
16 evidence as to that.
17 Q. And you are, in your expert knowledge of the
18 market, convinced that nothing can happen between now
19 and November of 2001?
20 A. I haven't said that. All I have said is that
21 there's no evidence. You folks have no evidence. You
22 have no evidence of signed service agreements, no
23 evidence for demand for this product in that sense. And
24 the tooth fairy might come down, there might be
25 something out there you're not telling us.

1 Q. Because you're not entitled to know.
2 A. That may well be. But as far as I know,
3 having gone through the better part of thousands of
4 pages in here and I have researched this case in some
5 detail from the records we have from you, and Mr. Parkyn
6 has told us you have none now, and given that you
7 intended to have some by now given the plan to have the
8 marketing survey in mid-'98, it is significant, given
9 the effort that went into these calls and everything and
10 the abandonment of the planned marketing survey, it's
11 significant that you don't have any and that the number
12 of your partners has gone from 14 to 8, and perhaps soon
13 to 7.
14 Q. Your knowledge is that only partners can sign
15 up to use this facility?
16 A. I didn't say that. And no, I understand that
17 PFS would be happy to market to nonpartners.
18 Q. So the fact that there are fewer members of
19 the limited liability company is not relevant to whether
20 there's a market or not, is it?
21 A. It is relevant. It is not dispositive, but
22 that doesn't mean it's not relevant. There may be
23 others out there besides partners that the fall -- the
24 dramatic fall from 14 to 8 or 7 partners is interesting
25 is evidence of a continuing erosion, at least among

1 entities that might want to be partners. [redacted]
2 [redacted]
3 [redacted]
4 [redacted]
5 [redacted]
6 [redacted]
7 [redacted]
8 [redacted]
9 [redacted]
10 Q. Isn't it true that there were never 14 members
11 of the limited liability company?
12 A. The list was 14 partners, members, whatever
13 you want to call it, as I recollect it. I have a piece
14 of paper from you guys which has a list, I think, with
15 14 companies on it.
16 Q. Were they members of the L.L.C.?
17 A. I don't have it with me. I have it in my mind
18 as a list of members. Whether they were technically not
19 members of the L.L.C. or the L.L.C. was not created at
20 that point formally, I don't know what you're referring
21 to there.
22 Q. I don't know what you're referring to there
23 either. Let's move on to the topic of the --
24 MS. CHANCELLOR: Judge Bollwerk, would it be
25 possible for us to take a break? The witness has been

1 at this for a while.
2 JUDGE BOLLWERK: Sure. We have been at it
3 about an hour and 15 minutes or so. Why don't we take a
4 break here.
5 (A recess was taken.)
6 JUDGE BOLLWERK: All right. Can we go back on
7 the record and we're ready to resume the
8 cross-examination of Dr. Sheehan.
9 Q. (By Mr. Silberg) Dr. Sheehan, I hope this is
10 one of the areas, even though you didn't identify it
11 before as something you thought we could drop, that we
12 can. And that's the asserted uncertainty that we might
13 construct and operate both the intermodal transfer point
14 and the Low railroad. You heard the testimony yesterday
15 by Mr. Parkyn that we are only going to build one of
16 those, didn't you?
17 A. I did.
18 Q. And in light of that testimony and the rest of
19 the material on the record, would you be willing to
20 withdraw that part of your testimony?
21 A. Well, the difficulty is that we have a fair
22 amount of paper several different places where the
23 company is saying, "Well, we might build them both," or,
24 "We are going to build them both." Mr. Parkyn has said
25 yesterday that he plans on building the Low rail.

1 When we heard from I think it was Mr.
2 Kapitz in his deposition, I think he was saying that the
3 possibility was open to build one or the other. There's
4 some places where you even say you are going to build
5 both, one as a backup to the other. So we have Mr.
6 Parkyn yesterday saying that he -- I can't remember his
7 exact words, but the implication was they were going to
8 build Low.
9 If you want to -- given that the total
10 cost may vary, depending upon the life cycle costs of
11 those two facilities, that the ITF might be higher in
12 life cycle cost than the Low rail, if Mr. Parkyn wants
13 to make a commitment that the Low rail is going to be
14 built and not the ITF, it seems to me that then what you
15 are saying makes sense.
16 But if it is just his sense of what he
17 knows now that he is going to build Low, but that might
18 change by the time he gets around to building it, then
19 I'm not certain that we would want to withdraw this
20 because the cost might be significant the other way.
21 Q. Without regard to the cost, do you really
22 believe that we would build and operate both?
23 A. Well, I have paper from you, Mr. Silberg,
24 saying that you are going to build and operate both.
25 Q. Do you want to tell me what that paper is?

1 A. I don't know that I could identify it right
2 offhand. If you want to let me have time at the next
3 break --
4 Q. Sure.
5 A. -- I would be glad to see if I can find it.
6 Q. Let's go on. You also heard in Mr. Parkyn's
7 deposition --
8 A. Excuse me. Why don't you let me make a note
9 here.
10 Q. Sure.
11 A. Okay. Go ahead. Sorry.
12 Q. And you were at Mr. Parkyn's deposition,
13 weren't you?
14 A. Yes, I was.
15 Q. And you heard him testify there that they were
16 only going to build and operate one of them.
17 A. If you've got that transcript, I'd be glad to
18 look at it. My recollection was him saying that they
19 were probably or, you know, it wasn't that there was a
20 commitment to only build the one. And are you saying
21 that they were only going to build one and the one would
22 be the Low?
23 Q. No. And that wasn't the way I asked my
24 question this time.
25 A. I'm sorry. I just wanted to be sure.

1 Q. I said would you withdraw your testimony that
2 we were going to build both.
3 A. My testimony wasn't that you were going to
4 build both. My testimony was that we have a piece of
5 paper from you folks in a file you made saying that you
6 were going to build both.
7 Q. Well, let me show you Mr. Parkyn's testimony.
8 Deposition. Sorry.
9 MS. CHANCELLOR: What page number is that,
10 please?
11 Q. 77. And on page 77 at line 21 the question
12 was asked, starting at line 16:
13 "Q. Does the operation portion of the
14 budget account for operating both the Low Rail corridor
15 and the intermodal transfer facility?"
16 Mr. Parkyn said, "You mean simultaneous
17 operation?"
18 And the question was, "Uh-huh."
19 And Mr. Parkyn said, "No, wouldn't be
20 running simultaneously. You'd be building one or the
21 other."
22 Did he say that?
23 A. He did. If you would let me read a little
24 bit.
25 Q. Sure. Because he is asked the same question

1 twice more in the succeeding pages and he gives the same
2 answer.
3 A. Okay. It does say that.
4 Q. Okay. And you heard him say that?
5 A. Yes.
6 Q. And it was under oath; is that correct?
7 A. Well, yes, it was.
8 Q. And you don't believe him?
9 A. I didn't say I don't believe it. I say that
10 it is contradicted by other evidence from the company
11 saying just the opposite.
12 Q. And you are going to show me that later?
13 A. I am.
14 Q. Good. Now, in your own testimony, if you look
15 at your answer 30, which is on -- well, it used to be on
16 page 22.
17 A. I have it.
18 Q. You quoted from our application to the Surface
19 Transportation Board that we would construct and operate
20 one of the following two projects: A rail line or the
21 ITF. Isn't that correct?
22 A. I do.
23 Q. But you don't believe that application,
24 either?
25 A. Mr. Silberg, you put "either" on there when I

1 have already told you that it isn't or I'm
2 not -- what I'm doing here is not saying as my own
3 belief what you are going to do. What I'm telling you
4 is that you have contradictory material out there.
5 Q. Well, is any of that material under oath that
6 you claim is contradictory?
7 MS. CHANCELLOR: Objection, your Honor. The
8 witness has stated that he can't recall where he saw the
9 information from thousands of documents that we have
10 received from PFS, and that he would look for the
11 information during the break. It is unfair for Mr.
12 Silberg to ask whether this information that he can't
13 remember is under oath or not.
14 MR. SILBERG: Okay. We'll wait.
15 MS. CHANCELLOR: Thank you.
16 MR. SILBERG: But I would think if he had
17 mentioned that this is from his testimony, that it would
18 have been in his testimony.
19 MS. CHANCELLOR: Is that a question?
20 MR. SILBERG: It's a response to your comment.
21 Q. (By Mr. Silberg) Well, maybe I can help you
22 along. Let's look at your answer 25.
23 A. 25?
24 Q. Uh-huh (affirmative). In the first paragraph.
25 Are those the documents you are talking about where you

1 say we said we are going to build both of them?
2 A. If you would give me just a second to read
3 them.
4 Q. Sure.
5 JUDGE BOLLWERK: Just for the record, I think
6 what we are referring to is on pages 15 and 16 of the
7 testimony.
8 MR. SILBERG: I apologize. I didn't re-mark
9 the copy I was working with.
10 A. The Exhibit 12 is at least one of the
11 documents that I'm referring to in that connection. And
12 in this one, it says, "PFSF Construction will start in
13 September 2000."
14 Q. Excuse me. Could you tell me what you are
15 reading from?
16 A. Exhibit 12.
17 Q. Yeah.
18 A. The page 3.2-2. And I'm reading at the first
19 line, or the first paragraph there. It begins, "PFSF
20 Construction will start in September 2000." Do you see
21 where I am?
22 Q. Yes.
23 A. It says, "The access road, Restricted Area,"
24 with capital R, capital A, "intermodal transfer point,
25 and" and I note or call specifically to your attention

1 the word "and", "the new rail line will be completed by
2 December 31, 2001." So that is one.
3 I believe there's another piece of paper
4 that I will also look for, since this wasn't the one I
5 had in my mind.
6 Q. Well, let's talk about this one first.
7 A. Sure.
8 Q. I assume you have reviewed the entire
9 environmental report to the extent that it is relevant
10 to your testimony; haven't you?
11 A. I think so.
12 Q. And you are aware, are you not, of the
13 requirements of the National Environmental Policy Act to
14 consider alternatives?
15 A. I am.
16 Q. And you are aware, are you not, that the
17 alternative section of the environmental report
18 discusses the Low rail line and the ITP as alternatives?
19 A. I think so.
20 Q. And are you also aware of about half a dozen
21 other references in the environmental report where it is
22 clear that these are alternate projects?
23 A. I'm not specifically aware of them. I'd be
24 glad to look at them if you'd like to point them out.
25 Q. Sure. I'd be happy to.

1 A. However, however, that doesn't quite -- that
2 explanation doesn't quite make sense of this because if
3 we are talking about alternatives you would say the
4 access road, Restricted Area, intermodal transfer point
5 "or" the new rail line would be completed. If it was
6 meant to convey the alternative characteristics, you
7 would not have said "and". Wouldn't you have said "or"?
8 Q. You might, if you were thinking of a
9 nitpicking witness coming along later and trying to find
10 --
11 MS. CHANCELLOR: Objection, your Honor.
12 MR. SILBERG: Strike that.
13 JUDGE BOLLWERK: Yes.
14 Q. (By Mr. Silberg) Let me show you some
15 references in the environmental report which are pretty
16 clear. Let's look at Section 4.3 on Section 4.3-1. And
17 here, doesn't it say that, "Two means of cask transport
18 from the railroad main line to the PFSF are under
19 consideration; heavy haul tractor/trailer via Skull
20 Valley Road or rail transport via a new rail line."
21 Isn't that the "or" you were looking for?
22 A. It does say that. And if you will recall, my
23 point wasn't that there aren't examples of PFS saying
24 that there are or those are alternatives. My point was,
25 in response to your question was I willing to give up

1 this assertion, my point was that you appear to have, in
2 many places, contradictory assertions.
3 Q. Can you point to many places? You have
4 pointed to two.
5 A. Well, as soon as I get a chance to find the
6 other piece of paper at the next break, I will show you
7 that one, too.
8 Q. Okay. Now, isn't it also true in
9 Section -- let's look in the alternative section in 8.3.
10 Isn't Section 8.3 of the environmental report entitled
11 "Alternative of Constructing a New Heavy Haul Railroad,
12 Heavy Haul Road from Low, Utah to the PFS Instead of the
13 Rail Line"?
14 A. It does say that.
15 Q. In fact--
16 A. Let me keep my place here, if you don't mind.
17 Q. Sure. Which place?
18 A. Right here.
19 Q. If you look at page 3.3-3, doesn't it say,
20 after discussing the proximity of PFSF and the railroad
21 main line, "The shipping casks will be transported by
22 rail on a new rail line."
23 Put that sticky-side down.
24 JUDGE BOLLWERK: Mr. Silberg came with a
25 copier; we have red stickies.

1 Q. Doesn't it say here, after describing the rail
2 line for Low, "Alternatively, the shipping casks will be
3 off-loaded at an intermodal transfer point."
4 MS. CHANCELLOR: Excuse me. What page are you
5 on?
6 Q. 3.3-3.
7 A. It does say that here.
8 Q. Okay. And you picked the one example where
9 you interpreted it to say we are going to build both,
10 and ignored all the cases where it is plain as daylight
11 that we are going to build only one.
12 A. Mr. Silberg --
13 MS. CHANCELLOR: Objection. Counsel is
14 mischaracterizing the witness's testimony.
15 A. You mischaracterized my testimony, sir.
16 Q. Tell me how I mischaracterized it.
17 A. I did not -- I am not saying that PFS is
18 determined to build both. You asked me whether I was
19 willing, given what Mr. Parkyn testified to yesterday,
20 to conclude that only one will be built, and that one is
21 Low.
22 Q. No. I didn't say that one would be Low.
23 I said only one would be built.
24 A. Okay. My understanding from Mr. Parkyn
25 yesterday, as I recall it, is that he said one would be

1 built and it would be Low.
2 Q. No. He said the preferred alternative would
3 be Low.
4 A. Okay. All right. And what I have said is
5 that there is contradictory evidence or information in
6 the record from PFS where they have gone back and forth
7 on this question. And just because Mr. Parkyn may be on
8 a "forth" right now instead of a "back" right now, it
9 seems to me is not conclusive of whether or not PFS is
10 determined and willing to make an undertaking that they
11 are going to build Low and they are not going to build
12 the ITF. That's all I have said.
13 Q. And you have chosen one example in the
14 environmental report and discounted all the others that
15 we have gone through.
16 A. I will bring you a second as soon as I get to
17 find it.
18 Q. Good. Thank you.
19 A. Did you want your book back?
20 Q. You had marked a page. If you wanted to look
21 at it, I didn't want to take it away from you.
22 A. Okay.
23 Q. Or we can save it and you can use it later on.
24 A. All right. What I was referring to here is
25 that we have, it seems to me, some places where PFS says

1 they are going to build both. I have shown you one and
2 I will bring you another if I can find it.
3 Mr. Parkyn is apparently saying he is going to build
4 only one.
5 Here in this other place, page 4.4-1, it
6 says, "A new rail line will be constructed to connect
7 PFSF directly to the U. P. Main line at Low." So we
8 have, all according to where you look, you have a number
9 of different assertions as to what they are going to do.
10 And my only point was that this issue appears to have
11 been unsettled in PFS's mind and it has cost
12 consequences, and it is presumably going to be resolved
13 by the time the bids are in. And so we should wait
14 until we know, and it's too bad that we don't know by
15 now.
16 This is another indication that we don't
17 have a definite project description in mind. If we
18 don't have a definite project description in mind, we
19 cannot have a reasonable estimate of project cost. What
20 we have here from the company's proposal is somewhat
21 immature in terms of being ripe for a decision. We
22 should wait. These sorts of decisions should have been
23 decided before now.
24 Q. How can you say that there is any uncertainty
25 in PFS's mind as to what it is going to do with respect

1 to this issue when you have heard four times Mr. Parkyn
2 answer the question that we were going to build one?
3 A. The question is, one, are you going to build
4 one or both? And the second question is involving
5 uncertainty; if you are going to build one, which one,
6 since that has cost consequences of some substantial
7 magnitude.
8 Q. And you have done a cost analysis of the
9 lifetime costs of the railroad versus the heavy haul
10 option?
11 A. I have not done a formal analysis. But
12 looking at the materials from PFS, my recollection is
13 that the capital cost of building Low is higher than the
14 capital cost of building the ITF. But the operating
15 costs of operating the ITF are higher than the operating
16 cost of operating the Low. So --
17 Q. I'm sorry. Go ahead.
18 A. So in terms of life cycle costing, it might
19 well be, depending upon what the through-put is, it
20 might well be that Low, if you built Low, that might
21 wind up on a life cycle basis to be more expensive than
22 operating the railroad if there was only a low
23 through-put. "Low", I mean small through-put through
24 the railroad.
25 Q. You said it might be. But you haven't done

1 the analysis, have you?
2 A. I have done the analysis to the extent of
3 seeing that the operating costs, though they are poorly
4 defined with respect to the ITF, I might add, that the
5 life cycle analysis -- that the analysis of costs,
6 capital costs, is that Low is higher than the ITF. I
7 believe you folks have said that.
8 Q. We testified to that, and Mr. Parkyn testified
9 yesterday that the life cycle costs of Low were higher.
10 MS. CHANCELLOR: Objection, your Honor.
11 Counsel appears to be testifying.
12 MR. SILBERG: No. I am answering --
13 MS. CHANCELLOR: Answering the witness's
14 question.
15 MR. SILBERG: -- you. I am answering Dr.
16 Sheehan's comment - and it will be followed with a
17 question - by telling him what Mr. Parkyn testified to
18 yesterday.
19 MS. CHANCELLOR: Objection, your Honor.
20 A. I do not recollect Mr. Parkyn saying that the
21 life cycle cost as opposed to the construction cost at
22 Low would be higher. But -- that completes my answer.
23 Q. Do you want to tell me what the cost elements
24 are you looked at and the values of the elements you
25 looked at to determine the life cycle cost of the heavy

1 haul option?
2 A. As I say, what I looked at were the capital
3 costs for Low, and I believe we have some place a
4 capital cost estimate for the ITF. All
5 right. The operating costs for the ITF, I don't
6 have -- I believe some place one of the documents that I
7 don't have here - we could probably find it with a
8 little work - suggested that the operating costs with
9 Low, with the ITF would be higher having to run the
10 heavy haul trucks back and forth to the facility if you
11 had a large amount of through-put than on the railroad.
12 The railroad has relatively low operating costs where
13 ITF would have relatively high operating costs. I don't
14 have it in my mind right now, my memory, where that was.
15 But we could probably root it out.
16 Q. I would be interested if you could find it.
17 A. Okay.
18 Q. You don't remember what the specific cost
19 elements were then, or the values on those cost
20 elements?
21 A. I might make a caveat here that the data on
22 operating costs with respect to Low are not very good.
23 Q. But your data that you can draw these
24 comparisons, it is much better? Is that what you are
25 saying?

1 A. I'm not saying that at all. I'm saying that
2 it is or that when we have asked for or looked for data
3 on the operating costs of Low, that it's been
4 ill-defined. The number of people that were working
5 there and whether they are within the 42-people
6 complement of employees, all of that is uncertain
7 because there's nobody in the alternative analysis that
8 you guys have turned out, as far as I can see. You
9 appear to be, in the ITF alternative, you appear to be
10 operating that thing with nonexistent
11 employees. So it is kind of unclear. That's an area of
12 the costs which you have not well defined.
13 Q. You haven't done your own analysis of how many
14 employees are required or where they would come from,
15 have you?
16 MS. CHANCELLOR: Can I have a point of
17 clarification? I believe Dr. Sheehan said "Low" in part
18 of his response and he meant ITF, so the record is
19 clear.
20 THE WITNESS: I'm sorry. I did mean ITF.
21 Q. Thank you.
22 A. At this point what I understand from Mr.
23 Parkyn's, I believe, testimony yesterday is that he
24 planned to have four people or three to four people at
25 Low. At other times --

1 MS. CHANCELLOR: Low?
2 THE WITNESS: ITF.
3 JUDGE BOLLWERK: He said ITF.
4 MR. SILBERG: The state likes to call it the
5 ITF.
6 THE WITNESS: Intermodal transfer point.
7 MS. CHANCELLOR: Facility.
8 A. Now, we have Mr. Parkyn, I believe in his
9 deposition, said that that would be operated out of the
10 complement of people from the 42 listed as the staff of
11 the facility itself. We have yesterday, I think it was
12 him saying that it would take four people of its own.
13 But those four people are not listed on the 42-person
14 roster.
15 Q. (By Mr. Silberg) I believe that
16 mischaracterizes his testimony. Did he ever say it
17 would be an additional four people?
18 A. I don't think I said it would be additional.
19 What I said was that he said it would take four people
20 to run it and there are no four people on the roster
21 that are designated to do that.
22 Q. Is that what Mr. Parkyn said?
23 A. This is my -- I am saying what I recollect Mr.
24 Parkyn having said. If you have a transcript for me to
25 look at, I will look at it.

1 Q. We don't have yesterday's yet, but I was
2 accused of having yesterday's yesterday.
3 MS. CHANCELLOR: You said you did.
4 Q. We will look for that quote.
5 A. Sure.
6 Q. Is it your view that those people at the ITP
7 would be full-time at ITF?
8 A. Mr. Parkyn, in his deposition, said they might
9 be part-time depending on the through-put, which I
10 suppose would depend upon which scenario you were in,
11 whether it was a 10,000 or 40,000 or 12.8. You have
12 many scenarios. It is not well defined. You haven't
13 laid that out in a reasonable fashion to identify even
14 an estimate of those costs.
15 Q. Excuse me just a minute. Did you ever write
16 down any of this evaluation of the alternatives between
17 the ITP and the Low rail?
18 A. I don't think I wrote it down. If you have
19 something I wrote it down on, I'd be glad to look at it.
20 Q. No. We never received anything in Discovery
21 and I wanted to confirm that there wasn't anything that
22 you had ever written down.
23 A. I don't know.
24 Q. Let's move on to a new topic. I guess we have
25 time go to a new topic?

1 JUDGE BOLLWERK: We have 45 minutes to lunch,
2 so how long is your topic going to take?
3 MR. SILBERG: We will probably have several
4 more topics.
5 JUDGE BOLLWERK: I hope so.
6 Q. (By Mr. Silberg) This one has to do with cask
7 manufacture where you suggested that there was
8 uncertainty as to whether PFS would partially
9 manufacture the casks.
10 A. Where are you looking?
11 Q. This is your question and answer 26 which used
12 to be on the bottom of page 18.
13 A. I have it.
14 Q. Where is it now? And you heard Mr. Parkyn's
15 testimony yesterday about the vendors manufacturing the
16 casks and the casks, these are the storage casks, and
17 the casks being filled with concrete at the site; didn't
18 you?
19 A. I heard Mr. Parkyn's testimony saying that the
20 casks would be partially manufactured at the vendor and
21 the completion of the manufacturing would take place on
22 site.
23 Q. Okay. And does that answer your uncertainty
24 that you had on the cask manufacturing and would you
25 withdraw that testimony at this point?

1 JUDGE BOLLWERK: Which is on pages 16 and 17,
2 by the way.
3 A. I have the same type of concern -- I have two
4 concerns in that connection. One is that we have a
5 contradiction from Mr. Parkyn between his deposition and
6 his testimony yesterday. At his deposition he said that
7 it couldn't or that they could not possibly be --
8 manufacturing could not possibly be completed at the PFS
9 site because the concrete that was necessary could not
10 be produced at that batch plant.
11 Q. I'd like to have you show me that in Mr.
12 Parkyn's deposition, because I have reviewed it
13 carefully and he never said that.
14 A. Okay. Well, let's see if we can find it.
15 Q. Well, I'd like to, but I looked hard and
16 couldn't.
17 A. Parkyn 40 to 42.
18 Q. Let's start there. The first reference you
19 have is Mr. Parkyn's deposition at 40 to 42. And I have
20 those pages here.
21 A. Okay. Actually, that cite, Mr. Silberg, looks
22 like it is in reference to where I say that the
23 construction budget includes expenditures for heavy
24 equipment and depending upon the size of a spent fuel
25 pool, the fuel may be loaded into the canister in the

1 pool itself. So I think we are looking at the wrong
2 answer.
3 JUDGE BOLLWERK: Are we looking at the fourth
4 paragraph of the answer? Maybe we can narrow this a
5 little bit because there's a lot of sites to the
6 transcript here and we don't want to review every one.
7 THE WITNESS: Looking at 21 and 34.
8 JUDGE BOLLWERK: Have you gotten to page 21
9 yet?
10 MR. SILBERG: Yeah. We are looking at that.
11 THE WITNESS: So let's see if we can find it
12 on here.
13 MS. CHANCELLOR: If you look on page 34 of Mr.
14 Parkyn's --
15 JUDGE BOLLWERK: That would be the other
16 place, right.
17 A. So what we have on 34, we say:
18 Question: Is it correct that you
19 have a concrete batch plant on site?
20 Answer: For construction at the
21 site.
22 Question: Okay. So the concrete
23 batch plant will be used for what types
24 of activities, what types of
25 structures?

1 Answer: Well, when building the
2 site, of course, the batch plant would
3 basically be the building foundations,
4 wherever concrete was used in the
5 building, the slabs on which the casks
6 are --
7 Question: And could the batch
8 plant be used to put the cement into
9 the --
10 Answer: I honestly -- I can't
11 answer that one. I don't know if
12 there's a different technical
13 requirement for that concrete. I'd
14 have to look at the license.
15 Question: But do you anticipate
16 -- do you anticipate doing that on
17 site, or do you anticipate buying the
18 storage cask complete from the
19 manufacturer?
20 MARK GAUKLER: I object, asked and
21 answered."
22 And then the answer notwithstanding the
23 objection was, "Answer: I don't know."
24 So here we have Mr. Parkyn saying that he
25 can't answer that. "I don't know if there's a different

1 technical requirement for that concrete."
2 So I guess that's what I remember.
3 Q. Okay. But that doesn't say they can't
4 manufacture, they can't fill the casks on site. That
5 just says Mr. Parkyn didn't know whether there was a
6 separate requirement for the concrete batch plant; isn't
7 that correct?
8 A. Well, what I take him to be saying there is he
9 is saying he doesn't know. He doesn't know whether that
10 batch plant can produce the concrete that is required
11 for the casks.
12 Q. Okay. And did you hear him testify in the
13 hearing that it can?
14 A. I heard him saying that they were -- actually,
15 I don't quite remember how he said it. But if you've
16 got it, I would be glad to look at it. I think it was
17 something like that.
18 Q. We haven't had a chance to go through
19 yesterday's transcript because we just got it.
20 A. I don't remember the framework on the words.
21 Q. But do you remember him saying words to the
22 effect that the concrete batch plant would be able to
23 manufacture concrete that would be used to fill the
24 storage casks?
25 MS. CHANCELLOR: Objection. Asked and

1 answered. The witness can't recall.
2 A. Yeah. I can't quite recall that.
3 Q. Okay. The only basis you have for saying that
4 the concrete batch plant or the PFS might not be able to
5 produce concrete on site is Mr. Parkyn's statement that
6 he couldn't tell you off the top of his head at the
7 deposition whether it could or not?
8 A. No. Again, referring back to that is what he
9 was saying is he didn't know whether it could be done or
10 not. So apparently that wasn't part of the plan, at
11 least at the time of Mr. Parkyn's deposition in May.
12 Otherwise, one would have imagined that he would know
13 whether it could be done. There's no use saying it can
14 be done if you don't know whether it can or can't.
15 And secondly, we have the other difficulty
16 which is that there is no -- again, if you look at the
17 42 people which make up the roster of employees at the
18 PFS facility, there are no concrete masons. There is
19 not anyone even that remotely looks like a job title for
20 concrete masons. There is no manifestation of that at
21 all, which adds credence to the idea that that was not
22 the plan.
23 Q. When you talk about concrete mason, are you
24 referring to the people who run the batch plant?
25 A. No. I'm referring to the people you recall

1 from Mr. Parkyn's testimony yesterday. I believe he
2 said something like, well, the forms will be delivered
3 and then you have the people operating the batch plant
4 and driving the trucks, but PFS people are going to be
5 the ones that are going to be pouring the concrete and
6 doing the masonry work. You know, around the forms that
7 came from Holtec or wherever. There isn't anybody on the
8 list of 42 employees that has got any kind of remotely
9 associated job title that is remotely associated with
10 pouring concrete.
11 Q. And your understanding is that's a full-time
12 job that you would need people to be doing as their only
13 job?
14 A. Well, I don't know whether it's a full-time
15 job or not. You are going to have a lot of these casks.
16 But I just can't imagine that you are going to have the
17 secretary change clothes and go out there in the
18 afternoon and be doing the masonry work. Who, exactly,
19 on there; the nuclear engineer, the plant manager, the
20 guys with the guns? And if you are suggesting that it
21 is going to be done part-time, then even if it is done
22 part-time or is overtime, then that list, I assumed, was
23 listing FTEs. So if they are going -- if those people
24 in there are going to double as something else, the
25 position certainly should have been listed and the 42

1 FTEs should have been incremented.
2 Q. So you don't like the list.
3 You don't know how many casks are going to
4 be produced, do you?
5 A. I think I do. Mr. Parkyn is telling us this
6 is a 4000 cask facility.
7 Q. Good. And how many years is that going to be?
8 A. Well, we don't know that because we don't know
9 the service agreements, and Mr. Parkyn told us it is the
10 service agreements that tell us how fast they come in.
11 Q. So you don't have a clue as to how much
12 concrete work would be done and over what time
13 period?
14 A. I have a clue as to how much concrete work
15 will be done. Four thousand casks were --
16 Q. And over what time period?
17 A. Mr. Parkyn hasn't told us, and you apparently
18 don't know.
19 Q. And you don't, either.
20 A. That's right. And I'm not the manager and the
21 planners of this facility.
22 Q. But you are telling us you know how many
23 people we need.
24 A. I'm telling you Mr. Parkyn is saying he has
25 four people that are going to staff the ITF, and if he

1 has other people they are going to be pouring 4000 casks
2 worth of concrete and they don't show up on your roster,
3 even if they were the same people, you should list those
4 positions as to two concrete masons and make a note or
5 something and say these might be the same people. You
6 don't do anything of the sort.
7 Q. Okay. And you -- we covered that.
8 You also claimed in your testimony that if
9 we don't produce concrete on site, that this would have
10 an adverse impact on the cost of the storage casks.
11 A. Where are you looking at?
12 Q. Answer 56.
13 A. Hold on a second.
14 Q. It used to be on page 37.
15 A. 56. Yes. Could you give me your question
16 again, please?
17 Q. Yes. You had claimed in your testimony that
18 we won't produce the concrete on site and that,
19 therefore, that will have an adverse impact on storage
20 costs.
21 A. Mr. Silberg, I think I know where you are
22 mischaracterizing my testimony again. I didn't say that
23 you won't produce it on site. I said that you have
24 continuing conflicts about where you will produce it and
25 what the cost consequences are.

1 Q. I see. So you think we have all these
2 uncertainties; is that correct?
3 A. Certainly.
4 Q. Now, you heard the testimony yesterday that
5 our concrete cost estimates were based on cost of
6 concrete delivered to the site and not built at the
7 batch plant; is that right?
8 A. I heard that yesterday. And I think I heard
9 Mr. Takacs and maybe it might have been Mr. Gas, Gase?
10 Q. Gase.
11 A. I think I heard one of them saying that
12 concrete is a lot cheaper being brought in on trucks
13 than being produced in a batch plant. That's what I
14 have in my mind.
15 Q. I think you remember exactly the reverse of
16 what happened, and I will be happy to show you the
17 transcript on that page.
18 A. All right. But why don't you go ahead with
19 your question.
20 Q. Well, is it your view that concrete coming in
21 by truck will be cheaper or more expensive than concrete
22 from a batch plant?
23 A. I have only to go on what I think I heard Mr.
24 Takacs say yesterday.
25 Q. But, well, you stated in your testimony that

1 if we have to bring it in or we have to upgrade the
2 batch plant, that there are going to be substantial
3 additional costs.
4 A. Where are you looking?
5 Q. Your testimony.
6 A. Would you give me --
7 Q. Last paragraph of answer 56.
8 JUDGE BOLLWERK: Which is on page 33, by the
9 way.
10 A. Okay. All right. If PFS will, in fact,
11 provide the concrete for the storage casks, a higher
12 grade batch plant may be necessary, which will involve
13 additional costs which may be substantial.
14 Q. Right.
15 A. We have that from Mr. Parkyn saying
16 that --
17 Q. He didn't know?
18 A. He didn't know. And I have written this upon
19 the conclusion that if you have to have a batch plant
20 that will produce a higher grade of concrete, that that
21 would probably cost more than your run-of-the-mill
22 concrete.
23 Q. But the truth is you don't have a clue as to
24 what the price of producing or buying concrete is.
25 A. Well, I know from your stuff that you are

1 saying it is $82 a yard, I think.
2 Q. And that is based on concrete delivered to the
3 site; right?
4 A. Actually, I don't remember what it is based
5 on.
6 Q. Okay. You also said that if we don't produce
7 concrete on site, it may well have an adverse impact on
8 storage cask costs. That's in the preceding paragraph
9 of your answer, right? And you gave that testimony
10 before you heard Mr. Takacs's testimony.
11 A. Okay. And which line? Is that the first
12 paragraph?
13 Q. Second paragraph of your answer 56.
14 A. Okay. Yes. And the foundation for that, in
15 answer to your question, is that if we look at Exhibit
16 21 on the -- on page 3 and paragraph 5.6.
17 Q. Hold on. Let's just figure out where that is.
18 A. That's the MOU from Holtec.
19 Q. Yeah.
20 A. If we look on page 3, please.
21 Q. Yes.
22 A. [redacted]
23 [redacted]
24 [redacted]
25 [redacted]

1 [redacted]
2 [redacted]
3 [redacted]
4 [redacted]
5 [redacted]
6 [redacted]
7 [redacted]
8 [redacted]
9 [redacted]
10 Q. Well, I'm not asking you about the labor. I'm
11 just asking you about the concrete.
12 A. I thought you were asking me about the price
13 of the casks.
14 Q. I'm asking you about the concrete.
15 A. All right.
16 Q. [redacted]
17 [redacted]
18 [redacted]
19 A. [redacted]
20 [redacted]
21 Q. Yes. Now, PFS furnished concrete could come
22 from a batch plant; correct?
23 A. I suppose.
24 Q. Or it could come from concrete purchased off
25 site and delivered on site by PFS; correct?

1 A. I suppose.
2 Q. So how do you know that if PFS will not
3 produce concrete on site it will have an adverse impact
4 on storage cask costs?
5 A. Because what I was referring to there was not
6 the fact that whether or not in that context -- I'm
7 interpreting this as being PFS furnished concrete with
8 -- my assumption was that we were talking about a batch
9 plant on site.
10 Q. Where does it say that?
11 A. Well, it doesn't say that here.
12 Q. Why did you assume it?
13 A. I assumed it because we had, we were -- well,
14 I can't remember right now where that was. But there
15 was a reason for doing that. And I can't bring it up
16 right this minute. If it occurs to me in a bit, I will
17 call it to your attention.
18 Q. Okay. You also say on question 56 that the
19 storage cask concrete technical specifications may
20 exceed the capability of the concrete batch plant. Do
21 you know that as a fact?
22 A. That is relying on Mr. Parkyn's deposition.
23 It says right there, "Notwithstanding this agreement,
24 Mr. Parkyn in his deposition said that the storage cask
25 concrete technical specifications may exceed the

capability of the concrete batch plant."

Q. Isn't what Mr. Parkyn said that he didn't know at that time?

A. He didn't know whether it would or wouldn't.

Q. Correct.

A. And that's why I said "may".

Q. So you don't have any independent knowledge?

A. On this point, I don't have any independent knowledge. And with respect to the cost point, my point with 5.6 was only that the estimated cost of [redacted]is only with the proviso that the concrete is not provided by Holtec.

Q. You conclude in the latter part of your testimony by saying that there is this matter of controversy on whether the facility will have to be designed to supply concrete. This is on answer 73 which used to be on page 47.

MS. CHANCELLOR: Page 42.

THE WITNESS: 73.

JUDGE BOLLWERK: 42 and 43.

MR. SILBERG: Thank you.

THE WITNESS: Which paragraph are you referring to?

JUDGE BOLLWERK: And 44.

Q. (By Mr. Silberg) It's in the third paragraph

1 of the answer, I believe.

2 Isn't it true that the only controversy is

3 the controversy that you have created by Mr. Parkyn's

4 inability to recall, at that deposition, whether a batch

5 plant could meet the technical specifications because he

6 didn't have the license in front of him?

7 A. Absolutely not. That's not the crux of the

8 controversy at all. The crux of the controversy is that

9 you have listed the cost of the casks in the business

10 plan. You know that's as an O&M cost. You list the

11 cost of the cask, the cost of the cask at [redacted] If

12 -- and we have a lot of those casks out there. We are

13 talking about 4000 of these things. That's a lot of

14 money when we can see that, if we look at Exhibit 21,

15 that the estimated cost, the -- if we look at page 2,

16 the last line on page 2. If we look at the last line on

17 page 2, that cost, that's where the [redacted] comes from

18 that you have in your business plan on the O&M cost,

19 which is the most recent cost estimate for O&M costs,

20 that I have, anyway. And you are assuming that that is

21 the cost of the cask.

22 The controversy is you have not included

23 in that, and it's clear from this agreement that the

24 concrete and the labor to fill those forms is not

25 included in that [redacted]. This is only for the forms.

1 Q. Let me show you Mr. Parkyn's testimony which
2 I'm sure you read. Parkyn and Kapitz on O&M costs.
3 Didn't you say in question and answer 42 that The cost
4 of pouring concrete for the overpacks will be
5 approximately [redacted] per cask?
6 MS. CHANCELLOR: Could we have the page
7 number, please?
8 MR. SILBERG: Twelve.
9 Q. (By Mr. Silberg) So didn't he include that in
10 his O&M cost? Are you saying that we ignored the cost
11 of pouring the concrete?
12 A. I'm not saying that you ignored it in that
13 sense. What I'm saying is if you look at the business
14 plan, which I noticed that though you updated the
15 business plan construction cost with your May 13
16 documents from Mr. Takacs and Gase, you did not update
17 the business plan with respect to O&M on this point, and
18 if you look in the business plan on any scenario, in the
19 business plan costs it is listed at a total of [redacted].
20 Q. Did we put the business plan into evidence in
21 this case?
22 A. I don't know that I can answer that question.
23 Q. Did we put Mr. Parkyn and Kapitz's testimony
24 into evidence in this case?
25 A. Yes.

1 Q. And you are disregarding testimony that we put
2 in this case because of a two year old document?
3 A. I am -- first off, I think we have evidence in
4 this case, if I remember, testimony this week saying
5 that that is or those estimates of O&M are generally
6 applicable, that that has not been superseded. We don't
7 have -- and I asked at the depositions or I asked
8 whether there was an update which corresponds to the
9 construction cost update and the answer was that there
10 was not an update.
11 Now, it's clear from the business plan,
12 and all I'm saying is in the business plan even though
13 you apparently knew that the [redacted] was not anywhere
14 close to the full cost of building these things, you
15 only included the cost of the half-manufactured cask
16 from Holtec.
17 Q. Didn't Mr. Parkyn's testimony say in answer 19
18 on page 7 that the O&M cost estimates in this testimony
19 represent the current best estimate of PFS's O&M costs?
20 A. It might well have.
21 Q. So you have disregarded that because the
22 business plan done two years ago says something that may
23 be outmoded?
24 A. No. We have the further piece of evidence
25 which is when we ask -- first off, when we asked for the

1 update, we've gotten the big ledger-size sheets on the
2 updated construction cost. We don't have something like
3 that putting it all together for O&M. So what we have,
4 what we are working with where the costs are laid out in
5 tabular form are in the business plan. We have this
6 testimony. And what I'm saying is the testimony
7 conflicts. You are saying it is an enhancement or an
8 update. But when we sit down and we ask then with
9 respect to this update where are the ramifications with
10 respect to labor to do this,
11 right? We don't have that. Where are the employees
12 that were supposed to be doing this reflected in the 42
13 people? If it is as you say, where is the update to the
14 employee roster, for example?
15 Q. Maybe none is needed. Is that possible?
16 A. I don't know. That's what I say. You don't
17 have any cement masons listed on there. You don't have
18 the FTE adjusted, even if they are overtime workers.
19 Q. And did Mr. Parkyn's testimony say that the
20 cost of labor required to assemble the cask is
21 incorporated in PFS's labor cost?
22 A. I believe he did. But I say to you since both
23 before and after we still only have 42 people, 42
24 positions listed as the roster of the site operations,
25 that's the full roster. And Mr. Parkyn has told us

1 before that that roster is sufficient for the 40,000 MTU
2 scenario or the 10,000, that there's nothing listed on
3 there. There's been no change made to it.
4 You are -- I think there's an uncertainty
5 here because you have come up with these, we have
6 identified these additional costs. You have responded
7 to it, but then we do not see the ramifications of it
8 into places we would expect it to be seen. If you are
9 planning to do this business about having it done on
10 site by PFS supplied masons, then we would also look for
11 verification to see if you have added masons to your
12 list of workers, and you haven't.
13 Q. Moving on to a different topic, you discuss
14 differences in cost estimates that have appeared in
15 various PFS documents, all of which I think we have
16 supplied to the state during the Discovery process.
17 A. Could you direct me to --
18 Q. Sure. If you look on answer 27 which used to
19 be on pages 19 and 20 where you talk about the rail
20 equipment, or in answer 31 on page, formerly page 23 on
21 construction costs, or answer 37 on page formerly 28 on
22 financing costs.
23 A. Well, looking at 27 first.
24 Q. Okay.
25 A. Do you want to refer me to something specific

1 on that answer?
2 Q. Yes. Your rail equipment discussion.
3 A. And I'm sorry. What's the question?
4 Q. You suggest that there are differences in the
5 cost estimates between documents that were supplied to
6 you at various points in time, and you always seem to
7 ignore the more recent ones.
8 A. For instance, I'm referring to the Preliminary
9 Construction Cost Estimate Phase II. That's a pretty
10 recent document. I don't know what you mean when you
11 say --
12 Q. You also refer to the 1998 business plan and
13 then you refer to a difference between that and the
14 numbers in the preliminary construction cost analysis.
15 And you attempt to make something of the fact that later
16 documents may have different numbers than earlier
17 documents. Why is it that you refuse to accept the more
18 recent estimates as the more recent estimates?
19 A. The reason why I do that, and it's not -- let
20 me just say it's not that I'm not accepting as
21 definitive in that sense. What I'm pointing out here is
22 that this is a project still in the process of
23 conceptualization that you have had now -- you go
24 through, and especially in the O&M but also in
25 construction, you have many scenarios. You have many

1 possible things that you might do. You keep changing
2 even between the process of 1998, and then you have the
3 depositions, and then you come up to the testimony, and
4 then we have the oral testimony. It's in motion. You
5 keep changing the plan. And I'm saying that there's an
6 uncertainty there.
7 Now, if you are saying that -- I mean, for
8 instance on the railroad equipment. Mr. Parkyn says at
9 one place that in Phase II he is going to buy another
10 railroad train. Phase II starts in 2006 and goes to
11 2011. And yet yesterday we inquire of him and we say
12 didn't that depend on demand and he says, "Well, yeah.
13 We could maybe get it right away."
14 Well, that matters, because if you have to get it right
15 away then you have to meet the first license condition
16 with that increment. And if you get it in 2006, you
17 only have to do it later. It matters in the sense of
18 what criterion you have to meet in order to satisfy the
19 first license condition. And it is in motion. We do
20 not have a firm project definition here with respect to
21 timing or with respect to cost. And that's essentially
22 what I'm saying. It's up in the air.
23 If you -- it seems to me that at this
24 stage if you want to begin construction, you know, in
25 November of 2001 and you want to bid it before, that at

1 this late date relative to when you want to begin, that
2 this should be settled. If you want to -- you know.
3 There's so much motion here even week from week.
4 Q. You have never been a project engineer, have
5 you?
6 A. I haven't been a project engineer, but I've --
7 Q. I'm sorry. Go ahead.
8 A. But, I mean, I am familiar with a substantial
9 number of projects, though I'm not an engineer so I
10 would never be a project engineer.
11 Q. So you have never managed a project.
12 A. I have never managed any substantial project.
13 That's true.
14 Q. And you have never put together a schedule for
15 a significant project.
16 A. I have not put together a schedule.
17 That's right. Not my line of work.
18 Q. Let's move on to another topic. In your
19 answer 28, which used to be on pages 20 and 21, again
20 trying to create these uncertainties, you talk about
21 PFS's construction plans as being scattered across
22 numerous documents. And then you go and list a series
23 of structures and features and equipment and then you
24 imply that there's some uncertainty about what is going
25 to be constructed or acquired. Which of these do you

1 believe is uncertain?
2 A. Let me finish reading this again, please.
3 JUDGE BOLLWERK: Page 19, by the way.
4 This is for later, whatever.
5 MR. SILBERG: And I appreciate that.
6 A. I think in that first paragraph, Mr. Silberg,
7 I am saying essentially what I just got done saying to
8 you; that we have, at this late date, a multiplicity of
9 scenarios that PFS has put forward. You have the three
10 in a business plan. Those all depend upon the
11 through-put, apparently, as a possibility that there
12 could be a 10,000 MTU scenario here that was going to go
13 for 40 years if there was not sufficient subsequent
14 demand to do Phase II and Phase III. All of these
15 possibilities are apparently open.
16 Q. Excuse me. Could you answer the
17 question? I said which of these facilities features or
18 structures, or equipment is there uncertainty as to
19 whether or not we are going to build them?
20 A. And my response to you is that the uncertainty
21 has to do, for instance, with storage pads, let's say.
22 All right?
23 Q. Is it uncertain that we are going to build
24 storage pads?
25 A. It is uncertain how many you are going to

1 build and when you are going to build, both of which
2 have substantial cost ramifications.
3 Q. And are we going to know that today?
4 A. I don't think you are going to know that
5 today, but I think if you are planning on starting
6 construction in November of 2001 you evidently plan on
7 knowing it by then.
8 Q. Are we going to know how many total
9 construction storage pads we need by November 2001?
10 A. No. But you will presumably know how many you
11 plan to build in Phase I, at least. And that has not
12 been determined at this late date.
13 Q. To your satisfaction.
14 A. At all.
15 Q. Did you hear Mr. Parkyn's testimony yesterday?
16 A. I think I heard most of it. What are you
17 referring to?
18 Q. And you heard him say he intended to build a
19 Phase I of 10,000 metric tons?
20 A. I heard him say that -- well, my understanding
21 of what he was saying is that it would be at least
22 [redacted] The license condition says that it should be
23 designed to be at least [redacted]. And then he said,
24 however, he thought he might be able to break even if it
25 were [redacted]. You remember we went around and

around on that. And presumably if he had enough service agreements, he might build one for [redacted]. We will know that by the time that the bid comes in because he will have in one hand the service agreements and he will have in the other hand the bids. And it's at that point that those two things should be compared.

This, the way you have done it heretofore with these estimates, many of which are conceptual and preliminary and you are missing costs here and there, are insufficient to that task, especially in light of the fact that you are going to have a heck of a lot better data soon.

MR. SILBERG: I'm ready to go on to another topic. I guess we can do one more short one before 12:30?

JUDGE BOLLWERK: We have about ten minutes left.

Q. (By Mr. Silberg) In your answers 29 and 30, you suggest that PFS is attempting to shift its construction costs to other entities. And I think you specifically point to the Great Salt Lake and Southern Railroad, and I like your designation of it in your deposition as the Great Salty. I think we'll probably go with that.

A. Sure.

1 Q. What evidence do you have that the railroad
2 costs are being excluded from PFS's estimates?
3 A. Well, notice here I say what is, in the answer
4 to 29 on the first line, "What is at issue here is
5 whether the Applicant, PFS, has presented, a 'hard
6 construction cost estimate' for," and I italicized, "its
7 construction costs."
8 What we have is the Surface Transportation
9 Board filing, which I believe was sent in in January of
10 2000, so that's quite recent. And in that, if you look
11 at the financial analysis sheets at the back of that
12 application, which are not included in this exhibit but
13 which are a part of the application, you run two
14 scenarios: One is fully funded by debt, and the other
15 is fully funded by contributions. The whole structure
16 of that application is that it is being sent in as a
17 Great Salty application. It is not being sent in by
18 PFS. So in that application you are talking about Great
19 Salty costs.
20 Q. You are familiar with the rules of the Surface
21 Transportation Board, I assume; aren't you?
22 A. No. I haven't read them any time recently.
23 Q. Okay. So you have no idea as to whether PFS
24 would be entitled to file an application in its own
25 name?

1 A. I haven't suggested that they would. All I'm
2 saying is there was a concern there. We have a couple
3 of concerns, as you see that I say.
4 Q. Well, let's stick with that concern
5 first.
6 A. Okay. Let's stick with that concern. First
7 off, it was unclear whether or not PFS was going to
8 create another independent entity, or an independent
9 entity; not necessarily another one because I'm not sure
10 that you have other
11 subsidiaries. This is an independent subsidiary which
12 has its own board of directors and its own CEO and all
13 that sort of thing. And it was making an
14 application.
15 Now, my concern was that if we had the
16 Great Salt Lake, that it was going to have its own cost
17 structure as a separately incorporated or L.L.C.'d
18 entity and then PFS would say those costs are outside
19 the ambit of this proceeding --
20 Q. Did PFS say that?
21 A. I just said that was my concern. It appears
22 to be in the application that PFS is talking about for
23 the Great Salty Railroad, that these are Great Salty
24 costs.
25 Q. Did PFS say that it would shift the costs of

1 the railroad to Great Salty?
2 A. I have not heard them say that.
3 Q. Didn't you hear Mr. Parkyn say that they would
4 not, in his testimony yesterday?
5 A. I heard Mr. Parkyn say that yesterday after
6 this testimony was filed. That's true.
7 Q. And you don't believe that statement,
8 obviously?
9 A. No. I'm not saying no I don't believe it, I'm
10 saying that is not my issue. The issue here is that it
11 would be nice to have reassurance or a commitment that
12 there is not going to be cost shifting away from the
13 total cost of this project onto other entities, be they
14 the Great Salty Railroad or customers, to make it appear
15 that PFS's costs are less than they really are. That's
16 the concern in this -- the title of it is Division of
17 Construction Costs, and one issue is the Great Salty,
18 and the other is the issue with the customers.
19 Q. Let's stay on Great Salty for a minute.
20 A. Okay.
21 Q. Did you hear the testimony of Mr. Parkyn that
22 they would not shift costs to Great Salty from PFS?
23 A. I don't remember the words that he used.
24 I have a recollection that there was conversation on
25 that. If you'd like to show it to me, I'd be glad to

1 look at it.
2 Q. Well, we will try to find it.
3 Do you believe that Mr. Parkyn intends
4 that PFS intends to shift costs from the Great Salt Lake
5 Railroad to -- from PFS to the Great Salt Lake Railroad?
6 A. I think in the context of this issue of
7 pass-throughs, that there was a possibility of that.
8 Q. Now, you are talking about customers and I
9 want to stick to the Great Salt Lake Railroad.
10 MS. CHANCELLOR: Objection, your Honor. I
11 believe Dr. Sheehan has asked and answered Mr. Silberg's
12 question. We are going over old ground.
13 MR. SILBERG: I don't know what the answer is
14 because I have asked him and I keep getting circular
15 arguments going off to other tangents, but he won't tell
16 me whether PFS has said that it will not shift costs to
17 the Great Salt Lake Railroad from PFS.
18 MS. CHANCELLOR: Dr. Sheehan filed his
19 testimony prior to Mr. Parkyn's testimony. In addition,
20 there's nothing on the record showing that PFS has
21 committed to not shifting costs.
22 MR. SILBERG: I believe the board and the
23 parties heard Mr. Parkyn's testimony yesterday.
24 MS. CHANCELLOR: Dr. Sheehan has said
25 that --

1 MR. SILBERG: And Dr. Sheehan -- I'm sorry.
2 MS. CHANCELLOR: Dr. Sheehan as testified as
3 to what he can recall that Mr. Parkyn said yesterday.
4 MR. SILBERG: We will look for it over the
5 break. Perhaps we can break five minutes early.
6 JUDGE BOLLWERK: If you are finished with this
7 line of questioning, maybe we should do that.
8 MR. SILBERG: I am.
9 JUDGE BOLLWERK: Let's come back then, we will
10 take our lunch break and come back at 1:30. And I'd
11 like to see counsel up here for a second about
12 scheduling.
13 We are adjourned for the time being.
14 (The lunch break was held.)
15 JUDGE BOLLWERK: Why don't we go back on the
16 record, please.
17 We are ready to continue with the
18 cross-examination of Dr. Sheehan by counsel for Private
19 Fuel Storage.
20 THE WITNESS: Mr. Silberg, I was going to
21 look up some documents over lunch, and I have found one
22 of them. If we could move back to that question, I'd
23 be glad to call your attention to it.
24 Q. (By Mr. Silberg) Sure. Let me just -- I'm
25 just removing some stickies.

1 Yes.
2 A. What we were looking for was the second
3 document that I thought I recalled which
4 indicated -- was an indication by PFS that they were
5 thinking about having both the Low rail and the ITP,
6 and what I'm looking at is Exhibit -- is Exhibit 19.
7 Q. Um-hum.
8 A. And if you will accompany me over to page 1,
9 your No. 35408, and if you will look at the first
10 paragraph there about halfway down on the right, it
11 says, Rail transportation will be the primary means of
12 canister delivery; however, alternate canister
13 transportation will be provided via truck from the
14 intermodal transfer point that will be constructed
15 north of the PFSF.
16 Q. And as you read that, that's a clear
17 indication that we're going to construct both?
18 A. Well, it says, however, alternative canister
19 transportation will be provided. The alternative is
20 also to be provided, is the way I read that.
21 Q. Oh. I don't see the word "also" in there.
22 A. Well, it says, however, alternate canister
23 transportation will be provided.
24 Q. Okay.
25 A. There was one other thing we're still looking

1 for, so as soon as I find that --
2 MS. CHANCELLOR: Oh, you --
3 MR. SILBERG: Let me deal with this document
4 first.
5 MS. CHANCELLOR: Okay.
6 Q. (By Mr. Silberg) This is a draft document,
7 isn't it?
8 A. Yes, sir.
9 Q. Do you know whose document it is?
10 A. Well, it's -- it's headed Private Fuel
11 Storage Facility, and I took it to be a document from
12 you folks. It has your Bates number on it in the lower
13 right-hand corner.
14 Q. But you don't know if we prepared it, do you?
15 A. I'm not sure what you mean by we. You mean
16 --
17 Q. Private Fuel Storage.
18 A. As opposed to a contractor --
19 Q. As opposed to EPA. Doesn't it say EPA
20 meeting up on the top on the first page?
21 A. It says -- at the top, you're talking about
22 right here?
23 Q. Correct?
24 A. It says, 2/1999 EPA, scrawl.
25 Q. To me it looked like m-e-g, but you might be

1 right. It might be scrawl.
2 There's no indication as to who prepared
3 this report, is there?
4 A. Well, I do not see on here any attribution,
5 that is correct.
6 MR. SILBERG: You had another document you
7 wanted us to have a look at?
8 MS. CHANCELLOR: Well, Dr. Sheehan hasn't
9 seen it, but we have --
10 MR. SILBERG: Well, is this
11 Dr. Sheehan's testimony or counsel's testimony at this
12 point?
13 MS. CHANCELLOR: Well, we have a document
14 that we have found that deals with the life cycle cost
15 at the ITP that Dr. Sheehan asked us to find, and we
16 have found the document.
17 MR. SILBERG: So this is a different topic?
18 This is not constructing both?
19 MS. CHANCELLOR: That's correct.
20 MR. SILBERG: Okay.
21 MS. CHANCELLOR: I mean there were two
22 questions that you had for Dr. Sheehan. One was the
23 ITP versus Low. The second was the life-cycle cost for
24 the ITP. This deals with the second.
25 MR. SILBERG: Great. If I can just continue

1 with this item first, and then we can go to that item.
2 JUDGE BOLLWERK: All right.
3 MS. CHANCELLOR: I'm sorry. I thought you
4 were done.
5 MR. SILBERG: No.
6 Q. One of your exhibits, Dr. Sheehan, was the
7 1998 transportation study, wasn't it?
8 A. What's the number? Let's see. That's 17?
9 Is that what you're referring to?
10 Q. Yeah.
11 A. Yes, sir.
12 Q. And since this deals with transportation, I
13 found it rather strange that when you included a portion
14 of that document, you ignored the portion that clearly
15 indicated that the ITP and the Low railcar were
16 alternates. Why did you do that?
17 A. Well, I mean your -- my position is not that
18 they may not be alternates, Mr. Silberg. My position
19 is that you folks are unclear about it and that there
20 are many things out there that indicate a contradiction
21 in what you intend to do. It is not inconsistent with
22 that that you have other documents that show that it's
23 an alternate. In fact, you would have to have two
24 different positions in order to have a conflict.
25 Q. Okay. So you have the one reference in the

1 environmental report that we talked about.
2 A. Yes, sir.
3 Q. And I guess you probably would be shocked if
4 you knew that by the end of this week, in a package
5 that's already been prepared, that "and" will be
6 changed to an "or," I'm sure that would surprise you,
7 in this draft document of uncertain providence. And
8 that creates the conflict, notwithstanding that on the
9 other side we have three sworn statements by Mr. Parkyn
10 in his deposition, his statement on the record here
11 under oath, at least a half a dozen statements in the
12 environmental report that are not ambiguous and
13 statements -- at least I found this one very easily --
14 in the transportation document, a study that you had
15 and chose to ignore, and you weigh that and you believe
16 that those are of equal weight?
17 A. Sir, I haven't chosen to ignore that here. I
18 have -- and I think I've quite adequately pointed out
19 that there are conflicting positions and that one -- at
20 this late date in the process one would think that one
21 -- you would have
22 chosen -- if you were going to have two alternatives,
23 you would choose whether you're going to have both and,
24 if you were going to have only one, which one. And you
25 haven't.

1 Q. Okay.
2 A. That's the basic point, you haven't.
3 Q. Well, there seems to be a basic disagreement,
4 and I guess we'll rest with that disagreement.
5 JUDGE BOLLWERK: And I think it's clear to
6 the Board what that disagreement is.
7 MR. SILBERG: Counsel, you said you've
8 located another document?
9 MS. CHANCELLOR: Actually, we've found it in
10 two places. On Exhibit 17 that you were just on, on
11 page 19, estimated cost of option, IT3, I believe is
12 the ITF --
13 THE WITNESS: Yes.
14 MS. CHANCELLOR: And then on the next page,
15 estimated cost of DR5, which I believe is Low, and we
16 have additional documents that spell that out a little
17 bit more.
18 Q. (By Mr. Silberg) And the purpose of this is
19 to show what?
20 A. Why don't you hold on a second. Let me
21 finish getting back up on this.
22 Okay. So I think the -- with respect to
23 these in -- in Exhibit 17, your question, as I remember
24 it, was did I have any data showing that the operating
25 cost at Low was, indeed, higher than the operating cost

1 -- I'm sorry, at the ITF. Was the ITF operating cost
2 higher than the Low operating cost, and I believe
3 that's what we have here, the life-cycle operating and
4 maintenance costs, [redacted] and some, and with
5 respect to Low, the -- it is [redacted] and some.
6 Q. That's an interesting point, but the
7 discussion we were having went to the total costs, the
8 total life-cycle costs. And isn't it true that this
9 very document shows that the total cost of the rail
10 option is considerably more expensive than the total
11 cost of the ITP, or more expensive, at least? We can
12 debate on what considerably is.
13 A. I recollect -- I'll address that in two
14 parts. I recollect our discussion was -- or your
15 question was whether I had anything to show what the
16 O&M costs were for the ITF. That was one, and that's
17 what I -- that's what I am proffering this for in this
18 connection right now.
19 The second point I make, if you'll
20 recall, was that if you have higher O&M costs on one
21 and lower capital costs, which is -- as you see here,
22 the capital cost for the ITP is [redacted], whereas the
23 capital cost for the railroad is almost [redacted].
24 Both of these scenarios are maximum scenarios, 40,000
25 tons over 40 years, maximum cartage scenarios.

1 And my point to you was depending upon
2 the throughput, the higher O&M costs, if you have less
3 throughput, the higher capital cost in the railroad
4 gets spread over the maximum units such that the
5 overall life-cycle cost of the railroad is less per unit
6 than the ITF. However, it may well be that if you had
7 much lower throughput, let's say the whole project only
8 winds up being 10,000 altogether, that number might be
9 in favor, since there are lower units -- fewer units at
10 a higher unit cost.
11 You are balancing that against the lower
12 capital cost at the ITF. The ITF has low capital cost,
13 high unit cost for transportation. If you're only
14 running a few units through, then the savings on
15 capital, it overwhelms the higher unit cost for a few
16 units. The opposite is the case with the railroad.
17 And what I said before is the choice
18 would have an impact depending upon the throughput that
19 could go either way. And it's important, then, to know
20 what the estimate is. And that will affect the choice.
21 Q. How do you know it will affect the choice?
22 A. I can sit down here with these numbers
23 provided right here, if they're correct, and I can tell
24 you where the break-even is for the -- which one would
25 be more cost effective for different levels of usage.

1 It is a simple pair of simultaneous equations. You can
2 just set one equal to the other and solve for quantity.
3 Q. If the only factor we were looking at was for
4 dollars, and if other factors were involved, it would
5 not necessarily follow.
6 A. Certainly. In any analysis, if there were
7 other factors involved, the answer might not
8 necessarily follow.
9 Q. Now, you're aware that the governor of Utah
10 has said that this project will --
11 MS. CHANCELLOR: Objection. This is outside
12 the scope of Contention E.
13 MR. SILBERG: No, on the contrary. If the
14 road option is much less likely because of the
15 governor's stated opposition, then the choice of rail
16 versus road might well not be governed solely by Dr.
17 Sheehan's monetary assumptions.
18 THE WITNESS: I'm sorry. Is that a question?
19 MR. SILBERG: No.
20 MS. CHANCELLOR: I'm going to renew my
21 objection, Your Honor.
22 JUDGE BOLLWERK: I'm trying to figure out
23 where exactly this is headed.
24 MS. CHANCELLOR: Political statements should
25 have nothing to do with this proceeding.

1 MR. SILBERG: It's not a political statement.
2 It's going to the question of how one chooses one's
3 primary option. Dr. Sheehan says it's a simple
4 mathematical calculation, and if his understanding of
5 the dollars is less, then we obviously would choose his
6 lower cost scenario.
7 I don't want to get involved in a
8 detailed discussion of what --
9 JUDGE BOLLWERK: And I think part of the
10 problem here may be due to characterization of perhaps
11 what the governor has said --
12 MR. SILBERG: Well, he's said that.
13 JUDGE BOLLWERK: Well, I recognize that, but I
14 don't know that we need that on the record. I mean what
15 he said is what he said. I think the point is that
16 there has been some opposition from the State of Utah.
17 Is that what you --
18 MS. CHANCELLOR: I absolutely agree with that,
19 Your Honor.
20 JUDGE BOLLWERK: All right. Let's try to
21 keep the level -- that tone out if it.
22 Do you have an objection to that
23 question, then?
24 MS. CHANCELLOR: I perfectly agree that the
25 tone should be changed, and I don't have an objection

1 to that particular question.
2 Q. (By Mr. Silberg) Would it be fair for PFS to
3 take into account the governor's opposition in choosing
4 whether it would prefer the rail versus the road option?
5 A. To the extent that it affects -- depending
6 upon -- I can imagine situations where that would be
7 fine. But the governor's opposition has been on record
8 for a long time, and the question here is not so much
9 which is more cheaper than the other, but how come you
10 haven't made the choice.
11 Q. Well, we have a disagreement as to whether we
12 have made our choice or not,
13 Dr. Sheehan.
14 MS. CHANCELLOR: Your Honor, I'd like to have
15 that -- Counsel's commentary stricken from the record.
16 It wasn't a question. He was responding to the
17 witness's testimony, and that is inappropriate.
18 JUDGE BOLLWERK: We're not -- I don't think
19 it's necessary to strike it, but I'm simply going to
20 note that I understand there is a controversy here.
21 MR. SILBERG: Are those the documents that
22 you found?
23 MS. CHANCELLOR: Yes, but there is -- there's
24 another document from the transportation study, but
25 it's basically the same numbers. And I'd be happy to

1 show you a copy of that, but it doesn't show anything
2 different than --
3 MR. SILBERG: Okay. Just if you wanted to
4 have the witness talk about that. If not, we can move
5 on.
6 MS. CHANCELLOR: No. I believe he's spoken
7 enough about that.
8 Q. (By Mr. Silberg) In your Answer 35,
9 previously on page 27 --
10 A. I appear to have lost my testimony.
11 Q. It's on page 24 -- no, that's the first
12 paragraph -- yeah, on page 24. If you can get to page
13 24 --
14 A. I don't have the --
15 Q. I'm sorry.
16 MS. CHANCELLOR: We have an additional copy
17 of your testimony if you can't find it.
18 THE WITNESS: Well, I don't remember walking
19 off with it.
20 JUDGE BOLLWERK: I noticed the court reporter
21 over there looking at some things. I don't know if
22 that might have had something to do with it.
23 (A discussion was held off the record.)
24 JUDGE BOLLWERK: All right. Is everything
25 all right?

1 MS. CHANCELLOR: Yes. He seems to have
2 everything.
3 Q. (By Mr. Silberg) Okay. Page 24, Answer 35 --
4 A. Answer 35.
5 Q. -- first paragraph, specifically the third --
6 I guess I'll call your attention to the third sentence.
7 A. Beginning with "Thus PFS's"?
8 Q. Yes. In that sentence --
9 JUDGE BOLLWERK: What question are we dealing
10 with? I'm sorry. I lost --
11 MR. SILBERG: I'm sorry. Answer 35 --
12 JUDGE BOLLWERK: Okay, Answer 35. Page 24?
13 MR. SILBERG: Page 24, third sentence.
14 Q. There you speculate that the 1998 business
15 plan could be based on data generated in 1998 or even
16 1990, since business plan writers rely on estimators'
17 reports from some previous period, and estimators rely
18 on publications published in previous years, et cetera,
19 et cetera.
20 Are you suggesting when you say
21 "business plan writers" that you're referring to the
22 writers of the 1998 business plan, or is that a more
23 generic statement?
24 A. I'm just pointing out, given that none of
25 that information was provided, what the difficulty

1 could be and why it would be nice to have some of this
2 filled it. I was not suggesting that it was
3 necessarily a problem here, but I was trying to show
4 that there was a way where the numbers and the data
5 might not be current.
6 Q. Okay. But you don't have any evidence that
7 that is the case for the 1998 business plan?
8 A. No. As I pointed out in a number of places,
9 the difficulty is that there doesn't appear to be any
10 evidence at all until quite recently when Mr. Parkyn
11 said that the '98 business plan was in 1997 dollars
12 mostly and that he said nothing at all about what the
13 vintage of the data was as opposed to what the year's
14 dollars were.
15 Q. But you don't have any evidence that they are
16 other than 1997?
17 A. I have some data from -- some indication from
18 Mr. Parkyn that the year's dollars are in --
19 denominated largely in 1997 dollars. But as I
20 mentioned, you could have 1990, let's say, for example,
21 data that had been brought up by an escalator to 1997
22 or '98. Just because it's in 1997 dollars doesn't mean
23 the data is from 1997.
24 Q. You said it could have --
25 A. Yeah.

1 Q. -- but do you have any evidence, which was my
2 question to you?
3 MS. CHANCELLOR: Objection. Asked and
4 answered.
5 MR. SILBERG: No.
6 JUDGE BOLLWERK: I don't think he did answer
7 this question.
8 MS. CHANCELLOR: Okay.
9 Q. (By Mr. Silberg) Do you have any evidence
10 that the data in the 1998 business plan in 1997 dollars
11 was, in fact, developed in some earlier point and
12 brought up, as you said, to 1997 dollars?
13 A. I don't know that for sure. I'm simply
14 pointing out the need to know and that no one has told
15 us that. It would affect the reliability of the data.
16 Q. Okay. Let's go to Answer 37, formerly on
17 page 28, now on page 25.
18 A. I'm sorry. Where are we?
19 Q. Answer 37 --
20 A. Yes, I'm there.
21 Q. -- page 25.
22 You state that the information presented
23 by PFS on our plans to finance construction are, in your
24 words, "riddled with uncertainties."
25 A. That's right.

1 Q. And you seem to suggest in the second
2 paragraph that while the 1998 business plan assumed no
3 debt costs, that other documents, like a 1996 document
4 that you cite, indicated that we were intending to
5 obtain a hundred percent debt financing.
6 A. Yes.
7 Q. Now, again, you heard Mr. Parkyn's testimony
8 on our financing plans, and do you still have an
9 uncertainty as to how PFS intends to proceed?
10 A. Yes, I do. And the basis of that is, is that
11 PFS appears to be moving around from point to point on
12 this. And at some points they seem to indicate that
13 they are going to use debt financing. At other points
14 Mr. Parkyn has said, Well, we might do this, we might
15 have debt financing, we might not. At other points Mr.
16 Parkyn says, No, we're not gonna, and then at yet other
17 points Mr. Parkyn says, We're not gonna unless a
18 customer asks us to do some loan generation for them.
19 So it seems to me we have at least four
20 different positions manifested at different times. Just
21 -- and so Mr. Parkyn -- my concern here is that Mr.
22 Parkyn seems to move from position to position. And
23 his most recent position appears to be the third of
24 those, which is we're not going to borrow any money for
25 ourselves, but we might do it for customers. And my

1 concern is, is that a firm undertaking? Is that the
2 last firm, unshakable position, or is that simply the
3 position of this week?
4 Q. You don't have any evidence to suggest that
5 it is not a firm position, do you?
6 A. Well, I have the previous documents, so, for
7 example, if you look at Exhibit No. 12 at the last
8 page, so if we turn over to page 2, this is ER Chapter
9 7, Revision 7, Appendix 7A, which is a fairly recent
10 document, as I understand it --
11 Q. What is the date of that?
12 A. I think I have seen in the part of the larger
13 document, you know, which has this in it that it's
14 sometime this year. I don't remember the exact date.
15 But if we look at the very back page
16 which is -- says page No. 2 on it -- it looks like this
17 -- if we read the top paragraph, it says, going back to
18 the previous page, Published numbers in The Wall Street
19 Journal indicate that municipal bonds are currently
20 being offered at approximately 6 5/8 percent. Since
21 municipal bonds are the likely source of funding for
22 PFS, these indicate that it is appropriate to use a
23 nominal interest rate of so on.
24 Where does that come from, since
25 municipal bonds are the likely source of funding for

1 PFS?
2 Q. Does that document -- I'm sorry. Go ahead.
3 A. No, I'm done.
4 Q. Was that document prepared prior to
5 Mr. Parkyn's testimony here?
6 A. I believe so.
7 Q. Was it prepared prior to his deposition?
8 A. I'm not certain, but probably.
9 Q. And so you're willing to ignore the most
10 recent information?
11 A. Let me say one more time, Mr. Silberg, I am
12 not ignoring the recent information. What I'm doing is
13 pointing out contradictions. And my quest here -- my
14 question, so to speak, is to know whether Mr. Parkyn's
15 position this week or last week or at the deposition is
16 PFS's final position as to what it's going to do, what
17 it's telling this Board it's going to do, or is it just
18 what it thinks it might do this week or last week or at
19 deposition time?
20 Q. The statement that you read was written in
21 what context?
22 A. It is -- it is in the context of talking about
23 bond rates.
24 Q. No, no. What is the context of the section
25 of the document?

1 A. Well, it's part of a document that's headed,
2 Appendix 7A, Basis for the Use of a 3.8-percent
3 Discount Rate.
4 Q. And what is that appendix written in
5 connection with?
6 A. It's an environmental report.
7 Q. I know, but what part of the environmental
8 report?
9 A. It is -- appears to be -- if we go back a
10 little farther, I think it's -- well, if I've got this
11 right --
12 Q. Will you accept that it's part of the cost
13 benefit analysis?
14 A. Okay. I don't know one way or the other.
15 I'll -- based on your representation, I'll be happy to
16 say that.
17 Q. Would you like to check that?
18 Do you have the entire environmental
19 report?
20 A. It doesn't -- what it's part of, in that
21 sense, would not affect, you know, my conclusion with
22 respect to it. It's talking about bond rates, and it's
23 talking about using -- that their plan is to use
24 municipal bonds.
25 I might add that I followed that up a

1 little bit and was told that it might even be possible
2 for PFS to finance that way.
3 Q. Isn't it true that lots of things are
4 possible?
5 A. Indeed.
6 (A discussion was held off the record.)
7 THE WITNESS: Okay. So this is --
8 Mr. Silberg, this is in a section that
9 Mr. Gaukler's showing me labeled Chapter 7, Economic
10 and Social Effects of Facility Construction and
11 Operation. And this is -- this is, indeed, in that.
12 The fact that it's there certainly doesn't mean to me
13 that it's therefore unreliable.
14 Q. (By Mr. Silberg) With respect to financing
15 costs, if I ask you to turn to your Answer 54 on page
16 --
17 A. I have it --
18 Q. -- former 35, now page 32 --
19 A. We're at 54 or 53? 54?
20 Q. 53.
21 A. Okay.
22 Q. When you were talking about the inadequacy of
23 some of PFS's suggestions with respect to financing,
24 and you said there that interest rates on even Baa-rated
25 corporate bonds rose 50 basis points between January 3

1 and May 5 to 8.74 percent and are still rising --
2 A. Yes.
3 Q. -- did you mean to suggest that financing
4 costs, if PFS chose to finance, were going to be much
5 higher than they assumed?
6 A. What I'm pointing out here in that Answer 54
7 is the suggestion that 6 5/8 might be a reasonable bond
8 rate were they to go to the municipal bond market was
9 probably quite a bit overoptimistic on PFS's point.
10 Q. Didn't you say 6 5/8 percent or even
11 9 percent?
12 A. Yes.
13 Q. Now, have you been following what's happened
14 to these bond ratings since your testimony was filed?
15 A. Now, you mean bond ratings, or do you mean
16 bond rates?
17 Q. Bond -- the same rates that you were talking
18 about, 8.74 percent and still rising.
19 A. I understand that municipal bond rates are at
20 a little under 6 right now.
21 Q. I'm talking about --
22 A. I have not gone back and checked NSB's bond
23 rates again.
24 Q. I'm talking about the 8.74 percent for
25 Baa-rated bonds.

1 A. Yes. I have not checked that since then.
2 Q. Would it surprise you that since May 5th they
3 have dropped 35 basis points, a lot faster drop than
4 they rose from January 3?
5 A. I'm not surprised. They tend to have a fair
6 amount of volatility. My point here, you'll notice, is
7 comparing, as was done here, PFS with virtually no
8 assets whatsoever with Northern States Power, as a
9 comparison company, which has billions in assets that --
10 you know, this is -- doesn't make a lot of sense.
11 Q. Just so we can have the record
12 straight --
13 MS. CHANCELLOR: What is Counsel showing the
14 witness?
15 MR. SILBERG: It's the same documents he
16 cited. Sorry.
17 Q. Is this the -- H 15 the same document you
18 cited?
19 A. Yes.
20 Q. And the Baa corporate bond rating is 8.38 or
21 8.39 as of June 21?
22 A. As of June 21 the Baa is 8.39. I had cited
23 it in May as 8.74, and it has since then come down a
24 little bit.
25 Q. Thank you.

1 But you said it was 8.74 and still
2 rising?
3 A. Yeah. If you -- we need to have a look at
4 the interim sheets if we want to see whether it was
5 still rising at that point.
6 Q. I take it you've never done the financing for
7 a major project, either as a developer or as a source
8 of financing?
9 A. As a mere economist, I don't have the
10 resources to be a source of financing but -- I have been
11 involved with an evaluation of financing activities in
12 the past, but I haven't done it myself.
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 Q. [redacted]
2 A. [redacted]
3 [redacted]
4 Q. [redacted]
5 [redacted]
6 A. [redacted]
7 [redacted]
8 [redacted]
9 Q. Okay. In your Answer 62, you said that, "It
10 would not be unforeseeable for the Band to require" --
11 I'm sorry, did I give a page number? Page 37. I
12 apologize -- "for the Band to require either removal of
13 the improvements or require PFS to make a substantial
14 payment."
15 I'm just wondering whether the double
16 negative in that phrase means that you're saying it
17 would be foreseeable for the band to require those.
18 A. Yes. Excuse me for being --
19 Q. That's all right. Comes with the legal
20 profession, not just economics.
21 What basis do you have for predicting
22 what the band will do?
23 A. If PFS would have to incur costs to remove
24 those pads, somewhere in the area between
25 [redacted] and it was at the option

1 of the band to require it or not. One would think the
2 band, in maximizing their revenue, might have an
3 interest in saying, Hey, we won't make you take it out
4 since it's purely -- it's entirely at our option -- if
5 you look at the lease -- if you give us some small
6 amount less than that. That would seem to me to be a
7 normal and reasonable business decision.
8 Q. Okay. So you don't have any basis for the
9 band's behavior other than what you consider normal and
10 reasonable business considerations?
11 A. That's true. Seems like an obvious
12 conclusion.
13 Q. Is there any nuclear safety relationship about
14 this non-nuclear decommissioning cost? In other words,
15 is there any NRC requirement for these?
16 A. I don't think so, but I'm not a hundred
17 percent certain.
18 Q. Okay.
19 A. But it is controlled by the lease.
20 Q. And isn't it true that these costs are
21 explicitly included in Mr. Parkyn's testimony?
22 A. Mr. Parkyn, as I recollect, either in his
23 deposition or in the testimony in here, probably in the
24 deposition, said that it was his intention that the
25 pads be left in place.

1 Q. Did you review his testimony and see an item
2 for non-nuclear decommissioning?
3 A. I can't remember offhand. I certainly
4 reviewed the testimony. If you'd like to show me, I'd
5 be happy to know.
6 Q. Let me point to a couple places. I believe
7 the -- does the table of O&M cost categories in Answer
8 A18 to Mr. Parkyn and
9 Mr. Kapitz's testimony on page 6 include an item for
10 non-radiological decommissioning?
11 A. It does.
12 Q. And --
13 MS. CHANCELLOR: Excuse me. Could I have a
14 page number?
15 MR. SILBERG: 6.
16 Q. And is that topic discussed in Questions 84
17 through 88 --
18 A. Yes, it is.
19 Q. -- on pages 22 and 23 of his testimony?
20 A. It does not appear, however, to mention or
21 give a cost specifically for breaking up the pads.
22 Q. Does this say "demolition and removal of all
23 the site's structures"?
24 A. Yes, but there was, if I remember correctly
25 in the deposition, some question about whether the pads

1 were considered in this context to be structures. I
2 have a recollection, in I think it was the deposition,
3 that though the buildings were going to be removed and
4 that fit in the category of structures, that perhaps
5 the pads didn't.
6 Do we have something that makes it
7 clear?
8 Q. Yes. It says, "all the site's structures."
9 A. Do we have something that makes it clear that
10 included in that are flat pads laying out on the ground
11 as a structure?
12 Q. I think all the site's structures -- well --
13 A. Okay. We did have in the deposition, as I
14 recollect, Mr. Parkyn saying that he thought that they
15 would not -- in fact, we might have something which is
16 quite -- it seems to me that PFS had a plan to leave
17 them in place and perhaps plant vegetation on top of
18 them, and I will see at the next break if I can find
19 that document for you.
20 Q. But you don't know whether the cost that's
21 allowed here includes your scheme or, as the testimony
22 says, removal of site structures?
23 A. Mr. Silberg, I don't have a scheme here, it's
24 just I'm looking at the cost. It does not specifically
25 address the pads, and we do have a document saying that

1 they intend to leave them in place and plant vegetation
2 over the top of them.
3 Q. Let me go back and show you Answer 87 to Mr.
4 Parkyn's testimony.
5 A. Okay.
6 Q. Does this say that, "The cost to decommission
7 the concrete storage pads would be significantly
8 reduced" -- we're talking about a 10,000 versus 40,000
9 MTU facility -- "in that the 10,000 MTU facility would
10 have 125 pads while the 40,000 MTU facility would have
11 500 pads"?
12 A. It does say that.
13 Q. Okay. Moving on to the topic of property
14 insurance, in your Answer 66, which is on page 39 of
15 the new testimony --
16 A. I'm sorry. 36?
17 Q. 66, page 39.
18 A. All right. I have it.
19 Q. I think you indicated when you started your
20 testimony that -- I don't remember exact words. I
21 wrote down, We have a quote on
22 insurance --
23 A. I -- I didn't want to use the word "quote"
24 because it's something, apparently, according to the
25 testimony, less than a quote. And I can't remember what

1 Mr. Pickerl's term for it was, but it wasn't a quote as
2 that term is used in the industry, apparently.
3 Q. Okay. But I thought you had said in your
4 statement that, We have a quote.
5 A. Well, I did, but you remember that I backed
6 away from it. We have something -- [redacted], whatever
7 you want to call it, has been provided by Mr. Pickerl
8 at this point.
9 Q. Okay. In your Answer 66, though, don't you
10 say as to Mr. Pickerl's testimony that he hadn't gotten
11 the figure for the cost of
12 $550 million of on-site property insurance?
13 A. And as of the time of the testimony, he
14 hadn't, and since that time, he has come forward -- I
15 think at the time of the deposition, and certainly at
16 the time of Mr. Parkyn's deposition, we did not have
17 that figure, and subsequent to that time, with Mr.
18 Pickerl's testimony and
19 Mr. Pickerl's oral testimony, we now have that [redacted]
20 figure.
21 Q. And when you say "now," is that the -- in
22 your Answer 73, page 42 --
23 A. Yes.
24 Q. Let me find this part. Unfortunately, Answer
25 73 is on a number of pages.

1 On the third paragraph of your answer --
2 A. Some operating costs?
3 Q. Yes.
4 A. Okay.
5 Q. And in that paragraph, don't you say that,
6 "The amount of nuclear property insurance available,
7 the amount of coverage PFS will in fact acquire, the
8 premium costs, the exclusions, and the deductibles are
9 all unknown at this stage"?
10 A. Yes, as they are.
11 Q. So you're saying that the premium costs are
12 unknown?
13 A. I am. As you saw from Mr. -- the testimony
14 of Mr. Pickerl, Mr. Pickerl says he has an oral
15 representation from someone at NEIL and then someone
16 from the Dawson Syndicate in London as to what they
17 might be willing to have as coverage provided and what
18 the premium might be. We do not have a firm quote.
19 And secondly, there is a considerable amount of
20 question with respect to the coverage of the policy,
21 especially with respect to the quite relevant war
22 risks.
23 Q. Are you saying that we don't have a written
24 indication from NEIL that they will provide us with [redacted]
25 [redacted] worth of coverage?

1 A. No, I'm not saying that. You're right on
2 that. We do have that in the exhibit to Pickerl and
3 Parkyn.
4 Q. So when you say it's unknown, you're saying
5 it's unknown to the level of decision or documentation
6 that you might like, not that there isn't information
7 that's been provided on this record as to the cost and
8 the amount of insurance?
9 MS. CHANCELLOR: Objection, Your Honor. The
10 statement is unknown at this stage, and this stage is
11 the date of Dr. Sheehan's testimony. And he's
12 responded to that question.
13 THE WITNESS: That's, indeed, correct.
14 Q. (By Mr. Silberg) Well, when you took the
15 stand this morning, you said this testimony is the
16 truth, the whole truth and nothing but the truth.
17 A. I did.
18 Q. Is that only as of the time you wrote it or as
19 of today?
20 A. No. You'll recall when we did that, Mr.
21 Silberg, I said that there was -- that was subject to
22 -- that there were several places in here where new
23 information had been received since this was written
24 and that I would call your attention to those places
25 when we got to them, and then you responded, oh, no,

1 you would call my attention to those places.
2 Q. All right. And I'm doing that right now, and
3 we don't seem to be --
4 A. Well --
5 Q. I'm doing that now, and you still seem to be
6 saying that the premium costs are all unknown at this
7 stage.
8 A. No, no. We're past -- what had happened is we
9 have the letter from NEIL -- in fact, do I have the
10 letter -- can I see the letter from NEIL just so I
11 don't mischaracterize that?
12 JUDGE BOLLWERK: Is that Exhibit F?
13 THE WITNESS: Okay. In the last paragraph
14 there, it does say, The annual premium for the [redacted]
15 [redacted] of on-site property coverage that NEIL would
16 provide for the proposed PFS site would be [redacted], and
17 so on. Okay. So we do have that letter. It does give
18 a quote for a policy yet to be determined.
19 Q. (By Mr. Silberg) Okay. You also seem to
20 suggest that the cost of the deductible for the nuclear
21 property insurance must be included in the cost
22 estimate, and I'm referring to your Answer 68 which is
23 on page 39, if you look at the last sentence of the
24 second paragraph, which is on
25 page 40? Yeah.

1 A. Yes, I have it.
2 Q. Now, as I understand it, a deductible is only
3 incurred if there's a loss; is that correct?
4 A. Yes.
5 Q. So if you want us to include the cost for
6 deductibles, you're assuming that the probability of
7 the loss is a hundred percent, right?
8 A. I'm not.
9 Q. Oh, then how do you include the cost of a
10 deductible when the probability of occurrence may be
11 zero or approaching zero?
12 A. Well, it seemed to me that if the -- if the
13 likely deductible amount was going to be other than
14 negligible that you'd want to make -- you'd want to
15 show that you had the financial capability to handle
16 the deductible. So, for instance, if the deductible
17 were quite large and you wanted to be sure that the
18 public health, safety and welfare were protected, you'd
19 want to show -- if the purpose of the insurance is to
20 guarantee that you were able to replace assets and
21 whatnot and you're using that as your source of revenue
22 in the event of an accident to replace assets, if you
23 had a large deductible, it would be impaired by the
24 amount of the deductible as a device to provide funds
25 for the replacement of the assets. That seems

1 elementary.
2 Q. Did you -- I'm sorry. Are you finished?
3 A. Yes, sir.
4 Q. Did you hear in Mr. Pickerl's testimony that
5 the deductible would be [redacted]?
6 A. I heard Mr. Pickerl say that that was liable
7 to be the range for it.
8 Q. And do you think that that's so significant
9 that you have to set aside a reserve to cover the
10 deductible?
11 A. If, indeed, it winds up being the deductible
12 once the policy is issued, then I think that that is --
13 if that plays out that way, then that's a small amount
14 and you probably wouldn't have to set up a reserve. We
15 would have to, indeed, look at the policy. You
16 remember that the form policy that was provided by you
17 folks left the deductible amounts in blank.
18 Notwithstanding
19 Mr. Pickerl saying that they were in the [redacted]
20 [redacted] range, those lines were blank.
21 Q. But it was a standard policy, wasn't it?
22 A. Well, it was a standard policy, but
23 we -- there was an opportunity there -- other things in
24 that policy were put in writing, but the amount for the
25 deductible was left blank, to be negotiated, as I

1 understand it. And Mr. Pickerl's testimony was that he
2 thought the deductible would probably be in that range.
3 Q. And you heard him testify that a very
4 different range of deductibles applies to nuclear power
5 plants?
6 A. Yes.
7 Q. You also seem to want to include the cost of
8 exclusions in the nuclear property insurance policy,
9 and I call your attention to Answer 68, the fourth
10 paragraph on page 40.
11 A. 40. That's the last paragraph --
12 Q. Yes.
13 A. -- as it stands?
14 Q. Where you say, "PFS has not addressed how
15 deductibles or exclusions will be covered," you're
16 suggesting that we also need to set aside financial
17 reserves for exclusions?
18 A. I think that in this context that we have to
19 be very aware of the fact that the war risk exclusion
20 there, when one of the -- when one of the two
21 outstanding contentions, that is, it's either K or L --
22 I can't remember which one's which. One's earthquakes,
23 and one's --
24 Q. K --
25 A. K.

1 Q. -- is the one you're talking about.
2 A. Thank you. That those deal with significant
3 accidents that may arise out of actions of the military
4 in this area -- in the area of the PFS facility, and
5 that if we have, then, in this policy a war risk
6 exclusion, that that eliminates a large portion of the
7 value of the policy, and that if this policy is meant
8 to reimburse PFS for damages, including damages from
9 actions of that sort, that this won't do it if that war
10 risk exclusion is -- does, indeed, eliminate coverage
11 for training exercises and runaway cruise missiles, that
12 sort of thing.
13 Q. You said "if." Are you an expert on
14 insurance policies of these types?
15 A. I'm not an expert on that, but I'm smart
16 enough to call up Utah's chief of their risk management
17 department and ask them about this provision in that
18 policy, and his response was -- after looking it over,
19 was that it probably does not cover training exercises.
20 Q. The exclusion does not, so training exercises
21 would be covered by the policy?
22 A. No. I'm sorry. Excuse me for having that
23 backwards that way.
24 His opinion was that there is a standard
25 war -- more or less general or usual war risks

1 exclusion in these policies because war risk is not --
2 you know, combat hostilities is not normally -- is not
3 an insurable risk, but that this language in this
4 standard form policy you provided us was broader than
5 that and probably would not cover war exercise, a
6 military training exercise stuff. He said he had
7 serious doubts about that and it didn't look like it
8 would to him, and he is the state's risk management
9 executive.
10 MS. CHANCELLOR: Point of clarification. I
11 assume you mean the exclusion in the standard contract
12 that we -- that the state obtained from PFS --
13 THE WITNESS: I do.
14 MS. CHANCELLOR: Thank you.
15 Q. (By Mr. Silberg) And who this is gentleman,
16 and when did you talk to him?
17 A. His name is, I think, Alan Edwards?
18 Q. Don't ask me because I'm --
19 A. I've got my mind working. I'm looking inward
20 here.
21 His name I believe is Alan Edwards. His
22 last name I believe is Edwards.
23 MS. CHANCELLOR: I think that's right.
24 The point of clarification was that the
25 policy would not cover, not that the exclusion would

1 not cover, correct?
2 THE WITNESS: Yes, absolutely. The policy
3 would not cover that risk, was his opinion. And I
4 talked to him yesterday after I heard the testimony
5 from Mr. Pickerl on this issue.
6 Was Pickerl yesterday or the day before?
7 I talked to him yesterday.
8 Q. (By Mr. Silberg) Did he have that policy in
9 front of him?
10 A. I read him the policy over the phone and then
11 faxed him the policy and then said, Let me know if you
12 have a different opinion after looking at it. But I
13 read him the policy language on that a couple of times
14 --
15 Q. Had he ever seen that policy before?
16 A. He said he had -- well, he hadn't seen that
17 particular policy, but he said it was standard language
18 up to a given point in there and that all the policies
19 of that sort -- general liability or property damage
20 would exclude war risk as not -- war risks are not
21 insurable in the industry, he said. Then the question
22 was whether this language would also eliminate coverage
23 for military training exercises, and he said, after
24 having had it read to him a couple times line by line,
25 that that appeared to be beyond -- that that language in

1 that policy went beyond the normal exclusion for just
2 hostilities and went farther than that and it would
3 probably exclude training exercise-related damages from
4 coverage.
5 Q. But to your knowledge, he had never seen this
6 policy before or that clause before?
7 A. Well, as I say, I read it to him a couple of
8 times, and then I faxed him the policy and said, Let me
9 know if you have a different opinion.
10 Q. Okay. And are you aware of NRC-licensed
11 facilities that are near nuclear installations?
12 A. Am I aware of NRC-licensed facilities that
13 are by nuclear reservations?
14 Q. Installations.
15 A. Nuclear --
16 Q. I'm sorry. Military -- almost. It's been a
17 long day.
18 NRC-licensed facilities that are near
19 military installations.
20 A. I -- I'm aware of -- well, I'm trying to run
21 through my mind here. I don't have a map in my mind of
22 the juxtaposition of military bases and nuclear plants
23 or things of that sort.
24 Q. What about the Millstone Nuclear Power Plant
25 and the New London Submarine Base?

1 A. I'm not aware of that either, but I can't
2 imagine there's many submarine overflights.
3 Q. What about Oyster Creek and McGuire Air Force
4 Base?
5 A. I'm not aware of that, and it would -- all of
6 these things, it would be nice to see whether they are
7 flying, and this sort of stuff, out of there.
8 Q. What about Turkey Point and Homestead Air
9 Force Base?
10 A. I don't know any of these.
11 Q. But whatever they are as nuclear reactors
12 that have required property insurance policies, I think
13 we heard testimony that the standard policy applies to
14 all of them, so you would assume that that same
15 exclusion clause applies to all of these facilities to
16 the extent that they have military installations
17 nearby?
18 A. I don't have any idea whether -- or what those
19 policies look like, and I don't know whether or not the
20 issue had been decided, whether this language -- in a
21 court or someplace like that -- whether this language
22 has been determined to make the exclusion. I don't
23 know the answer to that question.
24 Q. Okay. Now, if there were an accident caused
25 by a military -- U.S. military plane, are you saying

1 that no one would be liable for that?
2 A. Well, I asked -- I'm not saying that no one
3 would be liable for that. The question is whether they
4 would have to pay off. And I inquired of Mr. Edwards
5 about that situation as well while we're talking about
6 air force and other military aspects of this, and his
7 response was that that is iffy. And he cited the case
8 of the Fly's Eye University of Utah facility at the
9 Dugway Proving Grounds, which had substantial damage
10 when struck by an out-of-control cruise missile. And
11 he said that the air force absolutely went through all
12 kinds of trouble not to have to pay those damages, and
13 it was only after getting the Utah congressional
14 contingent in against the air force that they finally
15 were willing to pay up for that damage. And,
16 thankfully, no one was killed when that slammed into
17 that trailer.
18 MS. MARCO: I'm going to object to that last
19 statement regarding that study. We're way down the
20 road of unreliable hearsay. We've got this -- this
21 expert is not before us. He's referring to a study
22 that's not before us. And I ask that that part be
23 stricken.
24 JUDGE BOLLWERK: I'm going to allow it at
25 this point. You're right, we're on another road, but

1 we opened it up and I'm going to see where it goes. So
2 I understand it's hearsay, and we'll take that into
3 account.
4 Q. (By Mr. Silberg) As an attorney, are you
5 aware of the Federal Tort Claims Act?
6 A. I am.
7 Q. And that gives the right to people to bring
8 cases against the government for torts?
9 A. In some cases where we don't have sovereign
10 immunity in between.
11 Q. The person you worked for is -- that you
12 talked to, his title was the state risk manager? Is
13 that --
14 A. I don't know that I've got that exactly
15 right, but he is the person in the state that's
16 responsible for doing the risk management activities.
17 Q. Is he the insurance commissioner?
18 A. I don't think he's the insurance
19 commissioner.
20 Q. Okay. And he works for the governor?
21 A. I don't know who he works for. I wouldn't
22 imagine he'd be the insurance commissioner.
23 Q. You indicate that we haven't allowed for any
24 lapse in coverage of property insurance?
25 A. Where are we?

1 Q. That's what I'm trying to find. It's that
2 same question and answer, page 68. Is there any
3 requirement by the NRC that such lapses, should they
4 occur, be addressed?
5 A. My understanding is that absent the
6 requirements in this case that might come out of this
7 case, that the NRC -- NRC's rules don't require any
8 property insurance. So if what you're saying is does
9 the NRC require continuous coverage, I don't know that
10 the NRC, as a question of its rule, requires that there
11 be any continuous coverage, since it doesn't require
12 that there be any coverage to begin with.
13 Q. And then you also mentioned that we haven't
14 addressed nuclear property insurance along the Low rail
15 line or the intermodal transfer point. I take it you
16 heard Mr. Pickerl's testimony that those would both be
17 covered by nuclear property insurance? This is the
18 last sentence in the next to the last paragraph in
19 Answer 68.
20 A. The deposition, I think it was, of
21 Mr. Pickerl, I believe that there was some question
22 about whether or not the property insurance would cover
23 damages along -- along the rail spur or at the
24 intermodal transfer facility, and I think he said for
25 sure it would not cover the Skull Valley Road if

1 something were to happen out there. So I don't
2 remember what the --
3 Q. I'm asking you a question with respect to
4 your testimony which says, "insurance needs along the
5 Low rail spur or intermodal transfer facility," your
6 language. Now, did you hear
7 Mr. Pickerl's testimony that said both of those
8 facilities would be covered by nuclear property
9 insurance?
10 A. I don't think I did, or at least not that
11 way. So I'd be happy to look at it.
12 Q. At page 1775 of the transcript,
13 Ms. Nakahara was questioning Mr. Pickerl, and she asked
14 the question about would any damage to the proposed
15 rail spur in Skull Valley be covered.
16 Mr. Pickerl said, "It will be included
17 in the defined site description. So yes, it will be
18 covered as well."
19 The next question was, "And would any
20 damage to the intermodal transfer facility 1.8 miles
21 west of Rowley Junction be covered?"
22 The answer was, "Yes. If there's a
23 remote structure, we will simply have it added to the
24 definition of insured premises."
25 Does that respond to the uncertainty you

1 found as discussed in your testimony?
2 A. I hesitate -- that goes part of the way,
3 certainly. I hesitate only in that I believe
4 Mr. Pickerl, at least in his deposition, I think, made
5 a distinction between damage to the property and
6 radiological cleanup. But I would have to go back and
7 look at that to confirm it. But to the extent -- to
8 some extent, that does address the question.
9 Q. I'd be interested in your going back at some
10 point and trying to find that because I don't believe
11 the transcript reflects that.
12 A. Okay.
13 Q. In your Answer 73 -- it's towards the end of
14 that answer. It's really on the top of page 44, that
15 last sentence.
16 A. Okay. So picking up at the bottom of 43,
17 "Thus, the rate of SNF shipped offsite is uncertain and
18 so are the related operating costs"?
19 Q. Okay. When you say the related operating
20 costs are certain because the off-site shipping rate is
21 uncertain, now, you would acknowledge that DOE is
22 responsible for off-site shipping to their
23 repositories?
24 A. DOE, as I understand it, is responsible for
25 off-site shipping to the repository, but I do not

1 understand that the DOE is responsible for off-site
2 shipping to other than the repository.
3 Q. You don't understand that, but you don't know
4 that?
5 A. I believe I know that. DOE is only
6 responsible for off-site shipping to a non -- is only
7 responsible for off-site shipping to a DOE facility.
8 Q. Which could be the repository or another
9 facility; is that correct?
10 A. That's true, but it's not responsible for
11 off-site shipping to a non-DOE facility
12 Q. That wasn't my question.
13 A. I'm sorry.
14 Q. Now, you haven't studied the staffing levels
15 at spent fuel storage installations, have you?
16 A. I haven't studied them specifically, no.
17 Q. And therefore, you haven't studied them as to
18 how they might be affected by off-loading rates, have
19 you?
20 A. By off-loading rates --
21 Q. The rates at which fuel is shipped off site.
22 A. Sure. I have not -- it seems to me I don't
23 need to have studied them to know that if you increase
24 your activity levels, at some point you're going to need
25 more employees.

1 Q. Are you increasing your activity levels when
2 you ship fuel off site?
3 A. I thought your question said that if you
4 increase your shipments off site, and then I
5 characterized that as an increase in activity levels.
6 And I said at some point surely increases in actively
7 levels would lead to the need for further employees.
8 Q. Well, my question didn't say anything about
9 increasing shipping levels off site.
10 A. Sorry.
11 Q. As long as spent fuel is at the PFS site,
12 isn't it your understanding that utilities will
13 continue to pay the annual charges?
14 A. The annual charges to PFS, you mean?
15 Q. Correct.
16 A. The [redacted] or -- per year you're
17 referring to?
18 Q. Right, as escalated.
19 A. As escalated. I -- I have never seen an
20 agreement, and so all I have on that is
21 Mr. Parkyn's representation that that is the plan. And
22 that is modified and conditioned by his saying that
23 [redacted]
24 [redacted] So that tells me that I can't say that for
25 sure.

1 As I understand it from reading these
2 documents that -- Mr. Parkyn has indicated at different
3 points that he plans -- plans or planned to have that
4 system of charges for some or perhaps all of the
5 customers, or perhaps none. He has said in the
6 testimony yesterday, I think, and in the deposition
7 that many -- that [redacted]
8 [redacted] We have no idea what's in
9 those service agreements, and we have no idea that this
10 fee structure is going to be put into every service
11 agreement. That is unknown.
12 Q. When you said the representations by Mr.
13 Parkyn, were you referring to his sworn testimony?
14 A. I'm referring to his sworn testimony that
15 that was his current intention.
16 Q. Did he say anything about [redacted]
17 [redacted] or any other rates?
18 A. I -- I think he was asked whether or not any
19 of these contracts [redacted]
20 and he said, yes, [redacted]
21 [redacted]
22 Q. And did that -- did he say that the rates for
23 those contracts [redacted]?
24 A. I took the [redacted] comment to
25 be general.

1 Q. Okay.
2 A. That, of course, is one of the difficulties
3 in this case, is that we do not have any information on
4 these service agreements that is conclusive or binding.
5 They -- they too are immature in the sense of how well
6 they've been defined here.
7 Q. Isn't it true that contracts are amended, can
8 be amended?
9 A. Contracts are amended and contracts often
10 have side letters.
11 Q. Right. And therefore, it's possible that
12 even if you had a contract, you don't know for sure that
13 it wouldn't be changed?
14 A. And you assist me in making my point, Mr.
15 Silberg. That's true. And my point here is that we
16 have never seen any service agreements. Mr. Parkyn
17 doesn't have any service agreements negotiated,
18 according to him, and we are not certain what the terms
19 of those service agreements are going to be. [redacted]
20 [redacted]
21 [redacted] We haven't got a clue what's
22 going to be in each one of those at this point.
23 Q. And therefore, you're willing to disregard
24 his testimony on what elements will be in the service
25 agreements?

1 A. His testimony, as I understand it, as to what
2 elements will be in the service agreements is
3 conditioned by his saying, however, [redacted]
4 [redacted]
5 [redacted] And as you say, even at that point, with
6 the ones that have more or less standard terms, there
7 may be side letters or amendments. We don't know that.
8 I've never seen one, if, indeed, one exists.
9 Q. In your Answer 75 which used to be on page 49
10 in the second paragraph and is now on
11 page 44 --
12 A. Yes, sir.
13 Q. -- you said that, "PFS has not provided
14 anywhere close to sufficient information to determine
15 what the specific assumptions were underlying the
16 estimates," and I assume by that you mean referring to
17 the cost estimates in the -- at this point the January
18 26th preliminary construction cost estimates?
19 A. Let's see. We are talking about the
20 preliminary construction cost estimates and -- yes,
21 absolutely.
22 Q. Okay. If you were interested in what those
23 specific assumptions are, why didn't you ask when you
24 were taking the deposition of Mr. Parkyn or why didn't
25 you ask while he was on the witness stand?

1 A. I -- I can't remember offhand whether or not
2 the preliminary construction cost estimate was out as
3 of the time of Mr. Parkyn's deposition --
4 Q. It was, and you questioned him on it.
5 A. Okay. Well, I didn't examine him on it.
6 Q. You were there discussing it with your
7 counsel.
8 A. We might -- I don't have -- I mean I don't
9 have that in front of me. We might well have asked him
10 those questions, and we did not get sufficient
11 explanation. You're assuming that we didn't ask the
12 question.
13 Q. Well, I read the transcript, and I didn't see
14 the questions.
15 A. Okay. Well, I haven't gone back and read the
16 transcript, and my recollection is that we asked a full
17 lineup of questions and that often we didn't get
18 answers that were fully satisfactory in this area. And
19 I would have to go back and read through the transcript
20 in order to give you a better answer.
21 Q. Also in your Answer 75, in that same
22 paragraph, you suggested that the 1998 business plan's
23 use of assumptions from a 1995 business plan "gives no
24 credibility to the estimates," and I presume you mean
25 the estimates in the -- in either the business plan,

1 1998 business plan, or the April 26, 2000 preliminary
2 construction cost estimate.
3 A. What you're referring to is where I say,
4 Additionally, the business plan states that, quote, the
5 assumptions used to generate these projections in the
6 1998 business plan -- I add
7 parenthetically -- are based on those used in the
8 business plan dated April 19, 1995, close quote. And
9 then I say, "This gives no credibility to the estimates
10 because PFS was pursuing the Mescalaro Project of New
11 Mexico until April of 1996."
12 Q. Now, what assumptions are you talking about
13 there?
14 A. I -- I have no more than I am told there that
15 -- it just says, "'the assumptions used to generate
16 these projections are based on those used in this 1995
17 business plan.'"
18 Q. How do you know that those assumptions are
19 out of date?
20 A. Well, I know that if we have a plan here in
21 Utah that's supposed to be built in 2001 and it's based
22 on assumptions for a different project with a different
23 set of companies that are interested in doing it in a
24 different state with a different Indian tribe, that
25 they are not likely to be the same relevant assumptions.

1 Q. Not likely to be, but you don't know which
2 assumptions this is referring to, do you?
3 A. Well, that's exactly right, Mr. Silberg.
4 That's my point that we made a moment ago, is that you
5 don't articulate the assumptions that you're talking
6 about. I brought that up, and I said, You have not
7 laid out the assumptions. Here, then, you are after me
8 because I don't know what the assumptions are that you
9 haven't laid out.
10 Q. Did you ask about those assumptions in your
11 deposition, the state's deposition of
12 Mr. Parkyn?
13 A. All right. And we've already been through
14 that. I would have to go back and look at the
15 deposition. It seems to me we asked every question
16 that was relevant. I would be surprised if we didn't
17 ask questions about assumptions, and I will go look at
18 it if you would like me to.
19 Q. Well, I can tell you you did not ask a
20 question about assumptions in the 1995 business plan.
21 MS. CHANCELLOR: Objection, Your Honor. The
22 witness has said that he'll go back and review the
23 deposition transcript, and it's inappropriate for Mr.
24 Silberg to say what it is that the witness remembers.
25 JUDGE BOLLWERK: I would agree. The

1 objection's sustained.
2 Q. (By Mr. Silberg) In your Answer 77 on page
3 45, you state that we haven't completely defined the
4 year's dollars. Now, in this deposition didn't Mr.
5 Parkyn say that the 1998 business plan, like the 1997
6 one, was in 1997 dollars?
7 A. Yes, he did, and as I say there -- I say,
8 "Mr. Parkyn said that the Business Plan was in 1997
9 dollars or as a rule of thumb, 1997 dollars, but he was
10 unsure of the years dollars for the cask and canister
11 estimates, the major operating costs." That's what I say
12 there.
13 Q. And didn't he say that he wasn't sure of the
14 year's dollars of the canister and cask estimates
15 because he didn't have the Holtec letter in front of
16 him?
17 A. I don't remember him saying about the Holtec
18 letter. You could be right.
19 Q. While we're looking for this, but you have
20 seen the Holtec letter, so you know the date of the
21 letter and therefore the year's dollars it's in, don't
22 you?
23 A. Let me -- that's -- that's our
24 Exhibit 21, I think. Let me look at that.
25 Okay. I think what I was looking for

1 Mr. Silberg is paragraph 5.3 in this letter.
2 MS. CHANCELLOR: Are you referring to an
3 exhibit number?
4 THE WITNESS: 21.
5 MS. CHANCELLOR: 21. Thank you.
6 THE WITNESS: [redacted]
7 [redacted]
8 [redacted]
9 [redacted]
10 [redacted]
11 [redacted]
12 [redacted]
13 [redacted]
14 [redacted]
15 So we -- we had some question,
16 Mr. Gaukler, and discussion over what that last
17 sentence meant with respect to the upward or downward
18 escalation given that the contract was indeed, as you
19 say, signed in May of 1997.
20 Q. (By Mr. Silberg) And just to clean up that
21 other item, Mr. Parkyn's deposition where he said the
22 uncertainty of the year's dollars --
23 MS. CHANCELLOR: Could we have the page
24 number, please?
25 MR. SILBERG: Yeah, 64.

1 MS. CHANCELLOR: And is this from Exhibit 14?
2 MR. SILBERG: This is Mr. Parkyn's
3 deposition.
4 MS. CHANCELLOR: And this is an excerpt from
5 Exhibit 14, correct?
6 Q. (By Mr. Silberg) Line 14 and 15, didn't Mr.
7 Parkyn say, I don't have the letter in front of me,
8 whatever Holtec did. I'd have to look at the date on
9 it. So wasn't it his uncertainty because he didn't
10 have the letter in front of him as to what year's
11 dollars it was?
12 A. All right. Well, it appears, then, that if
13 this is -- if we're going to interpret this the you're
14 suggesting, that it was for the casks and canisters in
15 1997 dollars, if this is correct.
16 MR. SILBERG: I'm moving on to a different
17 topic, Mr. Chairman. I didn't know if you wanted to --
18 JUDGE BOLLWERK: Would this be a good time to
19 take a break for everyone? All right. Why don't we
20 take a -- let's try and make it around ten minutes, so
21 be back by about ten after three.
22 (A recess was taken.)
23 THE COURT: We're back on the record after
24 our afternoon break.
25 Q. (BY MR. SILBERG) In your answer 25 on page

1 16, the last sentence of that answer --
2 A. "My conclusion is"?
3 Q. The lasts sentence to answer 25 says there is
4 a potential to cut corners and therefore affect safety
5 when construction is limited to available funds instead
6 of an estimate based on safe design. What credentials
7 do you have to determine what is a safe design?
8 A. I think I was here making a statement about
9 the corner cutting and what the impact might be on safe
10 design. I don't claim to be a designer of nuclear
11 facilities. The point was that if you don't have
12 enough money, if you have to do what you've mystically
13 called in the industry "value engineering" to get your
14 bid, to get your construction cost within the limited
15 amount of money, you are liable to do things which you
16 wouldn't do if you had enough money. That's the point
17 of it.
18 Q. And you're using the word "available" in
19 quotes in the prior sentence as suggesting that somehow
20 PFS has only a limited amount of money in which to
21 build this part of the facility. Is that correct?
22 A. Why don't you give me a minute to review that
23 paragraph.
24 What I was doing at that point was saying
25 that since you had estimated that the cost of -- in the

1 transportation plan that the cost of the Low
2 alternative was almost [redacted], and then RAI said
3 that there was -- [redacted] was available for the
4 off-site rail line, what I was saying is that if you
5 had an estimate that was [redacted] and then for some
6 reason you noticed that there were only [redacted]
7 [redacted] available, that you were going to try and build
8 it for [redacted] when you had already said the
9 proper construction was [redacted], that that would be
10 possibly an example of corner cutting in value
11 engineering.
12 Q. So your answer assumes that we have decided
13 that the rail line would cost [redacted] if being built
14 properly, but we were only going to spend [redacted]
15 on it? Is that what I hear?
16 A. Well, what I'm pointing out is the numbers
17 that you provided in those two different places. And
18 then you're also tacking onto the [redacted] figure,
19 you're saying that [redacted] is available, implying
20 that somehow the availability of the money drove what
21 it cost to build the thing, where that's just opposite
22 from, seems to me, what 72-22 E is talking about.
23 Q. In answer 26 on page 16, you suggest, based
24 on the Holtec letter, which is one of your exhibit
25 numbers, that the necessary reactor loading equipment

1 is highly uncertain, and therefore our capital cost
2 estimate associated with such equipment are not very
3 reliable. I take it you've heard Mr. Parkyn say at his
4 deposition that different equipment would not be needed
5 at each site?
6 A. Let me look at this for a second.
7 MS. CHANCELLOR: Point of clarification. Did
8 you mean his deposition or his testimony?
9 MR. SILBERG: His deposition.
10 THE WITNESS: And we're looking at the second
11 paragraph for answer 26?
12 Q. (BY MR. SILBERG) I believe so.
13 A. What I was pointing out there is that you
14 have a letter which is Exhibit -- let's see, what --
15 Q. Twenty?
16 A. Thank you. Exhibit 20 is not to be confused,
17 of course, with the Holtec MOU. This is a different
18 letter from Holtec. And in that letter we have Holtec,
19 as noted here, saying that they have not found that two
20 sites would load fuel in the same way, and that, quote,
21 the cask handling equipment needed to support the
22 diverse array of operations accounts for a large
23 proportion of total equipment costs.
24 If Holtec is correct, then Holtec is after
25 all the entities that you folks have chosen as your

1 supplier and presumably would have some credibility in
2 this area. If they say that Holtec has never found two
3 sites would load fuel in the same way and so on, that
4 that's certainly something that is worth considering.
5 Q. My question was, did you hear Mr. Parkyn say
6 at his deposition that different equipment would not be
7 needed at each site, different equipment supplied by
8 PFS?
9 A. Yes, I think so.
10 Q. Thank you. Your testimony also in answer 26
11 in the third paragraph says that the cost estimates of
12 the dry transfer system are, quote, extremely rough,
13 and you base that on the fact that Mr. Parkyn was
14 uncertain whether the dry transfer system would be
15 licensed or certified. Is that correct?
16 A. Mr. Parkyn was uncertain whether the dry
17 transfer system was licensed or certified, and this
18 means that the cost estimates are extremely rough, and
19 more importantly, the dry transfer system reactor
20 market may not be available to PFS, or PFS may have to
21 use the substitute technology if it exists.
22 This is stuff that's not even -- the
23 technology is not perfected to the point of being
24 certified or licensed by the NRC. It seems to me it's
25 speculative as to whether or not this will be

1 available, or the alternative that Mr. Parkyn was
2 talking about yesterday, to the extent we have the DOE
3 design and then we have -- Mr. Parkyn was talking about
4 something a little different than the DOE.
5 Q. I'll get to that in a minute. But didn't you
6 hear Mr. Parkyn say that the dry transfer system would
7 be subject to a certification process before the NRC?
8 A. I believe I did, but my point was that it had
9 yet to be certified and there was no guarantee that it
10 will be certified.
11 Q. Your statement here, though, was that he was
12 uncertain whether it would be licensed or certified,
13 not that it would ultimately be.
14 A. I'm sorry; your distinction there went over
15 my head.
16 Q. With respect to the DOE system, is it your
17 understanding that the information on the DOE system
18 that's included in the DOE capital safety analysis
19 report, which is one of your exhibits --
20 A. It's Exhibit 26, yeah.
21 Q. -- is relevant to the cost of the system that
22 is envisioned for PFS?
23 A. Well, I have to say that when I wrote this
24 testimony I thought that Mr. Parkyn was talking about
25 the DOE system, which I thought was along, or that

there was -- it was in the process of being -- in the licensing process somewhere. But it turns out, according to his testimony yesterday, that he's talking about something entirely different.

Q. Correct. Moving on to another topic in your answer 56.

A. Okay, I've got it.

Q. Page 33. You suggest that we may have substantially understated, your terminology, cask and canister costs because there's no guarantee that we can continue to procure them at the price set forth in the memorandum of understanding. What do you mean by guarantee?

A. What I meant by that was that that Holtec letter, which you'll recall is Exhibit 20 --

MR. GAUKLER: 21, I believe.

A. [redacted]

1 [redacted]

2 And secondly, my understanding was at the
3 time that this memorandum was signed by PFS and Holtec
4 that there was a competitor in the market in the form
5 of BNFL and that that is no longer the case; that BNFL,
6 as I understand it, has withdrawn from that market.
7 And so the major competitor to Holtec,
8 competition being useful for holding down price, is not
9 there. And if that's true, instead of the price going
10 down, because Holtec would have a market to produce
11 4,000, the price might well go up because Holtec has a
12 bind on the market, it being the only one that has a
13 cask out there that's certified and licensed and ready
14 to go. If you don't have any competition, you know,
15 economics tells us, if nothing else, that price is
16 going up, other things equal.
17 Q. Could you answer my question, which was, what
18 do you mean by a guarantee?
19 A. Well, there's no reason to suppose, looking
20 at the memorandum of understanding, if this is the
21 basis for the assertion that this is what the cask
22 price is going to be, this does not embody any
23 assurance or guarantee or whatever you want to say.
24 This is inadequate to that task, and that's what I
25 mean.

1 Q. You just said that Holtec was the only one
2 with the cask certified, licensed, and ready to go. Is
3 that correct?
4 A. I think that Holtec is either licensed or
5 certainly well down through the process. I haven't
6 checked on that very recently.
7 Q. Can you answer my question? Is Holtec the
8 only one with a cask certified, licensed, and ready to
9 go?
10 A. I may have overstated that, but my
11 understanding -- all right, so that's my answer.
12 Q. If there were others certified, licensed, and
13 ready to go, they could be added to the application,
14 couldn't they, and used on site?
15 A. Perhaps, perhaps not.
16 Q. Why do you say perhaps not?
17 A. Well, we don't know whether they fit in with
18 what Mr. Parkyn has in mind to -- the scenario all the
19 way through here has been Holtec. So they would have
20 to presumably meet PFS's requirements. So for
21 instance, if we had the TN-40 cask was available, that,
22 as I understand it, is obsolete in the sense of I don't
23 think anybody's buying those anymore. So just because
24 they might be available doesn't mean that that would be
25 a viable alternative.

1 Q. But you don't know whether there are others
2 certified, licensed, and ready to go, do you?
3 A. I think that the two main competitors were
4 those two, and I think one of them's gone.
5 Q. Are you familiar with the NAC casks?
6 A. I'm not.
7 Q. You might check, because you'll find that
8 those are certified, licensed, and ready to go.
9 A. Okay.
10 MS. CHANCELLOR: Objection. Counsel is
11 commenting again.
12 Q. (BY MR. SILBERG) Moving on to -- answer 58
13 deals with BLM lease payments. In the fifth
14 paragraph --
15 A. I'm sorry. One more time.
16 Q. Answer 58 on page 35, fifth paragraph. You
17 refer to BLM lease payments.
18 A. Yes.
19 Q. Are you familiar with the regulations under
20 which BLM lease payments are set?
21 A. No. I have not reviewed those.
22 Q. Are you familiar with the published schedule
23 for leases of rights-of-way in Tooele County, Utah?
24 A. From BLM?
25 Q. Yes.

1 A. No.
2 Q. You also say that Private Fuel Storage must
3 account for any bonding requirements that BLM may
4 impose. You heard Mr. Parkyn's testimony yesterday
5 about this bonding requirement, I assume?
6 A. Yes.
7 Q. And are you aware of any reason why that is
8 not in accordance with BLM regulations?
9 A. I heard that testimony, Mr. Silberg, but I
10 can't quite remember what it was. So if you'd like to
11 show it to me, I'd be glad to answer your question.
12 Q. We'll look for it.
13 Let's talk about the Utah Radiation Control
14 Act, which is your answer 64.
15 A. I think we have an exhibit on that.
16 Q. Yes, which is the Act itself. It's on page
17 38. You criticized PFS for not including in its cost
18 estimates the cost estimates for regulatory expenses
19 associated with complying with the Utah Radiation
20 Control Act.
21 A. Yes.
22 Q. Isn't it true in your deposition that you
23 said you wouldn't know how much that you should fund or
24 budget for with respect to that Act?
25 A. I said, if I remember correctly, that I would

1 -- I did not know how much, when you took all the
2 regulatory requirements of that multi-page act, it must
3 be nine or ten pages long, and it has many requirements
4 and I have not costed all the requirements. However,
5 some of the requirements are apparent on their face,
6 and some of them we got some more information from
7 Mr. Parkyn yesterday. So one of the things you have to
8 do is pay a $5 million application fee.
9 If you give me a second --
10 Q. That is in your testimony, so that's not new
11 information to you. The second paragraph of your
12 answer 64.
13 A. Yes. So that was one. Secondly, you have a
14 fee to be calculated. We're looking in the one, two,
15 three -- the fifth page in, since the pages are not
16 numbered. Sixth page in. I'm sorry.
17 Q. But those fees haven't yet been set by the
18 state, have they?
19 A. Those fees are to be calculated, and that's
20 the sort of thing I meant by saying that I did not know
21 how much it was going to be, because, as you say, the
22 fees have not been calculated yet.
23 Q. So how would you account for something that
24 the state hasn't specified?
25 A. Well, there's two things. One, we can't

1 quite know about what the annual fee will be because
2 it's subject to a bunch of different calculational
3 aspects that have not yet been determined. However, we
4 do have, at the top of that under (1)(a) it says "Any
5 application for a waste transfer, storage, decay in
6 storage, treatment, or disposal facility shall be
7 accompanied by an initial fee of $5,000,000." And
8 secondly, we also have the requirement I think on that
9 same page for the posting of not less than a two
10 billion dollar bond.
11 Q. Cash bond; isn't that correct?
12 A. Yes. Do you happen to know where that is?
13 Q. It's in Section 19-3-306 (10).
14 A. Will you tell me about what page that is into
15 the document?
16 MS. MARCO: Fifth page.
17 Q. Down the middle of the page and No. 10.
18 A. No. 10. It says, "Provides evidence that the
19 applicant has posted a cash bond in the amount of at
20 least two billion dollars or in a greater amount as
21 determined by department rule to be necessary to
22 adequately respond to any reasonably foreseeable
23 releases or losses, or the closure of a facility."
24 Q. I guess at the beginning of our session this
25 morning you agreed that we should plan contingencies

1 for things that are reasonable. Do you think it's
2 reasonable for someone to plan for posting a two
3 billion dollar cash bond?
4 A. I'm not quite certain what they mean here in
5 this language of a cash bond. But we know that
6 Mr. Parkyn in talking about bonds said that bonds are
7 typically available for about 1 percent, if I remember
8 correctly from yesterday.
9 Q. But those are not cash bonds, are they?
10 A. I don't remember the context where he said
11 that.
12 Q. Are you by suggesting we should take into
13 account and input these costs telling us as a matter of
14 law that state statutes can regulate what takes place
15 on an Indian reservation?
16 A. That's a legal question.
17 Q. Yes.
18 A. The Act is on the books, and if you want to
19 make the argument, I suppose, that somehow it's
20 preempted or not applicable, that's certainly for you.
21 From my perspective, the Act is on the books and not
22 declared to be irrelevant to this case, and you should
23 at least have discussed it or made an explanation or
24 taken cognizance of it somewhere in the -- somewhere. I
25 mean, you've got the $5 million filing fee. That's

1 specific. That's not a problem with computation on
2 what that should be.
3 So I point out that when we're talking about
4 the category of regulatory fees, you're not responding
5 to this. This is something that might potentially be
6 applicable to PFS. And there's no discussion in the
7 financial documents.
8 Q. In several places, for instance, in answer 80
9 and answer 35 you allude to our using 1990 data.
10 A. I'm sorry; which question?
11 Q. Your answer 80 and answer 35.
12 A. Okay, let's look at 80 first. This is the
13 section under use of escalators.
14 Q. Yeah, page 46.
15 A. Page 46. And what specifically? I see the
16 1990 there.
17 Q. Right.
18 A. That was an illustration, you know.
19 Q. Are you suggesting that we have used 1990
20 data?
21 A. As you see, I begin that sentence by saying
22 "to illustrate." I don't suggest that you have or you
23 haven't. I'm suggesting that you have never told us
24 where that data came from. And we have, for instance,
25 seen the testimony of Mr. Gase and Takacs saying that,

1 for instance, in their data base they have cost items
2 of different years. So it would not be surprising, it
3 seems to me -- it seems to me that it would be nice if
4 you had specified this, because it would not be
5 surprising that earlier years' figures might have been
6 used, and why don't you just tell us.
7 Q. With respect to your testimony on the risks
8 of large accidents, in your answer 86 on page --
9 starting on 49 and on page 50, you say that there are
10 significant risks of large accidents at the site. Is
11 that correct?
12 A. Where are you looking?
13 Q. Four lines down in the first paragraph, your
14 answer 86.
15 A. "The state has filed an --"
16 Q. I'm sorry. Let's look at the first sentence
17 where you say "there are special risks associated with
18 the site."
19 A. Special risks. I didn't say significant
20 risks. "There are special risks associated with the
21 site where PFS has chosen to locate its facility."
22 Q. And then in the last sentence you say, we
23 must assume until the Board rules on the State's
24 contentions that there are significant risks of
25 radionuclide release."

1 A. Yes.
2 Q. Now, if there are significant risks of
3 radionuclide release, would it be your view that the
4 NRC would issue a license to this facility?
5 A. Well, I would hope not. That's of course not
6 the thrust of this paragraph.
7 Q. But if we're not going to get a license, then
8 we don't have to worry about the costs because we won't
9 be getting a license.
10 A. But still, again, the thrust of this
11 paragraph is that right now we are litigating here
12 today Contention E with respect to costs and impact and
13 insurance and that sort of thing. When the data we
14 need to quantify what the costs will be and how much
15 insurance there ought to be and whether there's a
16 substantial risk, whether the Contention K, K and L,
17 those contentions will only be litigated later. And so
18 we will only have the outcome that we need as an input
19 to determine what the cost impact right now will only
20 come a year from now.
21 And what I'm saying, since we don't know
22 what the outcome of K and L are going to be because
23 they are later in time, for the purposes of being
24 conservative in this testimony, we ought to assume
25 there's a problem. Because if we don't assume there's

1 a problem and then you find there is a problem, then we
2 will have passed the point of being able to be
3 conservative here because this would have been
4 resolved.
5 Q. But if there's a problem, we don't get a
6 license. Isn't that correct?
7 A. But we don't know the outcome of that
8 proceeding, a later proceeding.
9 Q. You also speculate that the location of the
10 site poses a problem on the scope and renewability of
11 insurance coverage.
12 A. I think we talked about that a little bit
13 earlier.
14 Q. With respect to pass-through costs --
15 A. Oh, yes.
16 Q. I guess you could look at answer 60.
17 A. Okay.
18 Q. On page 37. If a cost is a pass-through
19 cost, that assumes that the revenue for that cost would
20 be directly repaid to PFS if it's not directly paid to
21 the entity incurring that cost, doesn't it?
22 A. All revenues -- now, to answer that question,
23 let me make it clear. There are a
24 different -- there is a difference between a revenue
25 and a cost. That -- there is a confusion about this

1 pass-through business. There is a difference between a
2 revenue and a cost. Who pays over here, the cost is a
3 cost. If PFS goes out and ships fuel someplace for a
4 utility and then charges the utility, PFS incurs the
5 cost and then it gets revenue.
6 Now, whether that revenue comes in as part
7 of the [redacted] or whether that revenue comes in as part of
8 another payment that is not the [redacted], those are
9 revenues. That's a funding question. The cost is the
10 cost, a pass-through cost. Pass-through refers to
11 revenue, not costs.
12 Q. But wouldn't there be equal amounts on both
13 sides of the equation because the amount of the cost
14 would be offset by the revenue coming in directly from
15 that party incurring that cost to PFS or a third party?
16 A. Sure.
17 Q. So it's a net zero, isn't it?
18 A. If I park my car in the parking lot out here
19 and I have a monthly pass and it works out to be a
20 dollar a day, or if I put a dollar in the meter a day,
21 it works out to be the same amount, but I'm still
22 paying for some costs. How the money comes in does not
23 affect whether the cost is a cost.
24 You're talking about revenue when you're
25 talking -- it's in the revenue column. How the

1 customer is paying for it, whether he's paying for it
2 through the [redacted] fee or through a separate check sent in
3 does not affect the cost. It only affects how the cost
4 is paid for. There's a confusion in your presentation
5 of this pass-through business.
6 Q. Let's go on. The last set of questions deals
7 with insurance. In your answer 88 and in 94 you stated
8 your belief that NEIL didn't have very much insurance
9 before when it was considering a request for
10 information about property insurance coverage. I
11 assume, having heard the testimony and looking at the
12 letter from NEIL, that you now realize that NEIL had
13 the entire application before it when it responded to
14 the letter?
15 A. I'm sorry. I'm looking at answer 89.
16 Q. 88.
17 A. Oh, I'm sorry. Okay. And you're referring
18 to the parentheses that says "i.e., Volume 1, not the
19 entire license application"?
20 Q. Correct.
21 A. Okay. I'm willing to agree with what you
22 say, but I just happen not to remember him saying
23 whether it was the whole thing or just -- I remember
24 you had this big thing on the table.
25 Q. Well, doesn't the letter from NEIL say they

1 received the license application and safety analysis
2 report, the environmental report and the staff safety
3 evaluation report?
4 A. It does. And the question as I take it with
5 respect to that parentheses is whether when they say
6 they received a license application they're referring
7 to Volume 1 or the whole thing. And I don't know that,
8 but I mean --
9 Q. Okay. And I assume in answer 89 where you
10 said we don't appear to have approached ANI, another
11 nuclear insurer, you now understand that that's not
12 very important?
13 A. According to Mr. Pickerl, he said that he
14 thought based on private conversations that ANI was
15 probably getting out of the nuclear property insurance
16 business.
17 Q. And the staff testimony indicates that they
18 spoke with ANI and ANI would not provide coverage.
19 A. Uh-huh.
20 Q. Would you agree that NRC requires nuclear
21 property insurance for power reactors and specifies the
22 minimum of $1.06 billion that must be obtained in its
23 regulations?
24 A. Yeah. Now, that's also price -- are we
25 talking about property insurance?

1 Q. Property insurance.
2 A. Okay, I'm sorry. I don't have that exactly
3 in my mind. I don't dispute you, but I don't --
4 Q. You know there's an NRC regulation requiring
5 property assurance?
6 A. No, I'm not aware of --
7 Q. You know there's no NRC regulation requiring
8 property insurance or -- ISFSI under Part 72?
9 A. As we spoke earlier, yes.
10 MR. SILBERG: I have no further questions.
11 JUDGE BOLLWERK: All right, then.
12 Ms. Marco? I think we're on cross-examination finally.
13 MS. MARCO: Can I have just five minutes? I
14 could probably save a lot on the other side.
15 JUDGE BOLLWERK: That's fine. We'll take
16 five minutes, no problem.
17 (Brief recess.)
18 CROSS-EXAMINATION
19 BY MS. MARCO:
20 Q. Hello. I'm Catherine Marco from the NRC
21 staff. Isn't it true that the SER was issued -- was
22 the SER issued before or after April 26, 2000?
23 A. I guess I don't know that right offhand.
24 Q. You don't know the date the SER was issued?
25 A. I don't think so. If you can show me it, I

1 can probably --
2 Q. Is it not in your testimony?
3 A. It might well be. I don't remember it
4 offhand.
5 If you look at answer 11. January 4 --
6 Chapter 17, January 4, 2000.
7 Q. So was the SER issued before or after April
8 26, 2000?
9 A. That's a toughie. I think it was issued
10 before.
11 Q. Please turn to question 85. And I'm
12 referring you to the third sentence that begins --
13 A. Okay, third sentence. Is this on the
14 Price-Anderson Act?
15 Q. Yes. It begins with "next" and referring to a
16 $63 million figure.
17 A. Yes.
18 Q. And isn't it true that the NRC updated the
19 maximum secondary premium to $83.9 million?
20 A. I don't remember that for sure. We can
21 certainly look it up.
22 Q. Okay. But did you review the report, the NRC
23 contractor's report called "The Price-Anderson Act,
24 Crossing the Bridge to the Next Century, a Report to
25 Congress"?

1 A. I read the whole thing, but it's been a
2 little while.
3 MS. MARCO: May I approach the witness?
4 JUDGE BOLLWERK: Absolutely, yes.
5 MS. MARCO: Let the record reflect I'm
6 showing the witness a document.
7 Q. (BY MS. MARCO) Please read the first full
8 paragraph on page 8.
9 A. Okay. Page 8, first full paragraph says,
10 "The first adjustment to the maximum secondary
11 insurance premium in 1993 used the difference between
12 the September 1988 and the March 1993 CPI index for
13 urban consumers. This difference equaled 19.9 percent
14 and increased the maximum secondary insurance payment
15 as of 20 August 1993 to $75.5 million per incident. The
16 NRC updated the maximum secondary insurance premium to
17 $83.9 million as of August 20, 1998."
18 JUDGE BOLLWERK: Is that in the report that
19 he was reading from? He said he was reading from a
20 document, but I don't know what the document is.
21 MS. MARCO: It is "The Price-Anderson Act,
22 Crossing the Bridge to the Next Century, a Report to
23 Congress," prepared by ICF, Incorporated, Fairfax,
24 Virginia, prepared for U.S. Nuclear Regulatory
25 Commission.

JUDGE BOLLWERK: Did you provide the page number you were reading from, by the way?

MS. MARCO: I did. It's page 8, the one he was reading from.

Q. (BY MS. MARCO) Please turn to question 22 and look at the fourth line down.

A. Okay, starting with PFS May 1998.

Q. 1998, RAI response, correct.

A. Okay. Do you want me to read it?

Q. No. Isn't it true that the [redacted] is incorrect and really should be higher?

MS. CHANCELLOR: Excuse me. What question are you on?

MS. MARCO: 22.

JUDGE BOLLWERK: 22. Bottom of page 12, top of page 13.

A. Well, the fully -- as I recollect, the full 40,000-MTU facility, I think the construction cost including equipment is --

(Brief interruption.)

(The record was read.)

THE WITNESS: I'm sorry. The answer was yes, I think that's higher, you include equipment in there.

Q. So by this, it's [redacted] for a 40,000-MTU facility as stated in the May 19th, 1998 RAI response,

1 correct, for total construction cost estimate?
2 A. That's Exhibit 11?
3 Q. Yes.
4 A. On the RAI, if we're looking at page 3 of 3
5 in the RAI, the bottom line under the phase
6 construction cost here, PFS major construction costs,
7 millions of dollars, the 40,000-MTU scenario on the
8 right is [redacted]. Yes, it does say that.
9 Q. Isn't it true that Basis 6 of this contention
10 states that the applicant has failed to show that it has
11 necessary funds to cover the estimated funds of
12 construction and operation of proposed ISFSI because
13 its cost estimates are vague, generalized, and
14 understated?
15 A. Yes, as I remember it.
16 Q. And is that also your testimony?
17 A. Yes.
18 Q. In your deposition isn't it true that you and
19 Mr. Gaukler discussed the difference between the level
20 of detail of the operating and maintenance cost
21 estimate and the level of detail of the construction
22 cost estimate?
23 A. Well, I don't remember that exactly, but if
24 you'd like to show me in a deposition, I'd be glad to
25 find out.

1 MS. MARCO: May I approach the witness again?
2 JUDGE BOLLWERK: Yes.
3 A. We spent the whole day at it. The first part
4 is only dealing with -- the first part on transcript
5 page 101 is only dealing with -- at least I say, "I
6 think this relates to -- we have this, but this is
7 construction costs," and then Mr. Gaukler says, That's
8 construction costs; do you want to look at O&M.
9 Q. What's the "this" that you're referring to,
10 "I think that relates to -- we have this"?
11 A. I think we were going through the bullets on a
12 list of -- it was either documents or issues. I can't
13 remember which. I guess I don't recall. We had a
14 couple of documents and we spent a good part of the day
15 running through item by item on something. I don't
16 remember quite what that was.
17 MR. GAUKLER: Let me refresh your
18 recollection. It was State's responses to our
19 discovery requests.
20 THE WITNESS: Okay. Thank you, Mr. Gaukler.
21 Did I answer your question?
22 Q. (BY MS. MARCO) I'm not sure. Isn't it true
23 that you discussed the difference in detail between
24 operating and maintenance cost estimate and the
25 construction cost estimate?

1 A. Yes. That's what we were discussing in this
2 part of the deposition.
3 Q. So that is the nature of that question?
4 A. Yes.
5 Q. And isn't it true that in that discussion Mr.
6 Gaukler asked, "So are you saying we need a detailed
7 breakdown of O&M costs like we did with construction
8 costs?"
9 A. Yes. The issue was, you may recall that we
10 have the preliminary cost construction cost estimate
11 sheets, which are large, detailed ledger-sized sheets
12 for construction costs, but PFS did not provide
13 parallel updates for O&M cost. And the question in
14 that exchange that Mark was dealing with has to do with
15 how come, if PFS updated the construction costs by
16 giving us these long current sheets, how come PFS had
17 not done the same for O&M costs.
18 Q. But that was Mr. Gaukler's question to you?
19 A. I don't remember the exact question, but that
20 was the thrust of the discussion is that I was
21 suggesting that it probably would have been nice had
22 they done so.
23 Q. And isn't it true that you responded by
24 saying, "So I don't have something -- this is up to
25 date, detailed and presumably more recent. He's got

1 all these, you know, all the way down to washers and
2 that kind of, you know, quite detailed, and then I have
3 this old stuff."
4 A. Yes. The stuff that's more detailed is the
5 material that Mr. Gase and Mr. Kapitz had turned out on
6 the ledger-sized sheets, and we don't have that amount
7 of detail with respect to the O&M cost analysis.
8 MS. MARCO: I don't have any further
9 questions.
10 MR. GAUKLER: Just one question. I think you
11 said Mr. Kapitz in that last answer. I think you meant
12 Mr. Takacs?
13 THE WITNESS: Yes. Thank you, Mr. Gaukler.
14 JUDGE BOLLWERK: All right. No further
15 cross-examination?
16 MS. MARCO: That's it.
17 JUDGE BOLLWERK: All right, then we're ready
18 for redirect. Do you --
19 MS. CHANCELLOR: Yes, we need a break.
20 JUDGE BOLLWERK: Is 15 minutes enough time,
21 or 10 minutes? How long do you need?
22 MS. CHANCELLOR: If we have a five-minute
23 break, according to PFS yesterday which went to 15.
24 JUDGE BOLLWERK: We'll do 15.
25 (Brief Recess.)

1 JUDGE BOLLWERK: All right, we're ready,
2 then, for the redirect examination for Dr. Sheehan.
3 REDIRECT EXAMINATION
4 BY MS. CHANCELLOR:
5 Q. Dr. Sheehan, isn't it correct that you are
6 not a cost estimator?
7 A. That's correct.
8 Q. Can you explain your experience in reviewing
9 cost estimates?
10 A. My experience with respect to reviewing and
11 evaluating costs usually comes into context, for the
12 most part, the last 20, 25 years of experience in the
13 regulatory realm, evaluating costs for heavy
14 infrastructural projects of one sort or another. These
15 include -- these are retrospective analyses of costs
16 offered for regulatory purposes. These include power
17 plants, natural gas facilities, telephone facilities,
18 solid waste facilities of various sorts, sewer
19 facilities. All the major utilities, I do a lot of
20 that. Also worked in the context of mining, typically
21 gravel mining, evaluating the costs in that context. I
22 participate regularly in rate cases as an expert
23 witness on these issues.
24 The scope of the evaluation of costs goes
25 from cost of capital evaluation of operating costs, the

1 cost allocation between categories of customers or rate
2 payers or others, how costs may be divided according to
3 different systems. Also the cost of capital.
4 Q. How long have you been doing this and
5 approximately how many cases have you been involved
6 with -- projects?
7 A. Oh, if we added them up -- they're listed in
8 the vita -- I've been doing this kind of work since
9 approximately 1979 across the country. And I have
10 pages and pages. There's probably 50 or 60 cases that
11 I've been in, if not more.
12 Q. And can you give an idea of the documents or
13 the data that you look at when you're reviewing these
14 cost estimates?
15 A. The costs are -- the cost documentation is
16 usually kept in utility context according to Uniform
17 System of Accounts prescribed by either the FCC for
18 telephone cases or for FERC for electric cases at the
19 federal level, or the equivalence of those two uniform
20 system of account structures in all states. They have
21 that for all the regulated utilities, and so looked at
22 that. These are data that are rated according to a
23 uniform accounting system, and it includes all -- every
24 sort of cost that's involved in the operation of major
25 infrastructural facilities.

1 Dealing with our solid waste work, the
2 accounting structure is not as well defined. It's
3 often controlled at the local level. We do -- I've
4 been involved in rate cases for major solid waste
5 transfer operations for Metro, which is the
6 three-county governmental entity in the Portland area.
7 I have also been involved in doing the same sort of
8 analysis with respect to setting rates based on all
9 costs of the county and also the proposed plans to
10 build the new transfer station. I've done cost
11 studies, comparative cost studies of the operation of
12 large transfer stations up and down the West Coast. So
13 on.
14 Q. And in your vita you mentioned a couple of
15 nuclear projects. Is that correct?
16 A. Yes. We've dealt with, as we spoke earlier
17 today, we also were involved in the Calloway project. I
18 worked on the Marble Hill project for -- it belonged to
19 Public Service Indiana in Indiana and Walbash, the
20 Walbash co-op, issues dealing with bankruptcy in that
21 case. So those items.
22 Also done a substantial number of --
23 provided expert testimony in bankruptcy cases with
24 respect to Chapter 11 cramdown situations. That also
25 involved some analysis of costs and whether plans are

1 feasible to continue operation by the debtor in
2 possession.
3 We do a fair -- some occasional amount of
4 work with municipal utilities where a municipal entity
5 wants to take over the local electric system or
6 telephone system or gas system. Fair amount of work
7 there. We've also done a fair amount of work for the
8 APPA on estimating cost in -- actually written two
9 manuals on how to cost out the cost of acquiring REC's
10 for electric co-ops, territory by municipal utilities,
11 and also the costs involved in evaluation when cities
12 either want to sell a municipal system or when the
13 cities want to buy a municipal system from IOU's. So
14 we do that sort of thing as well.
15 To wind up, we do a lot of work, I've done a
16 lot of work over the course of the last few years with
17 respect to construction labor costs in Oregon and also
18 in Iowa on how the wage rates are set for construction
19 labor on public projects. As you know, 32 states have
20 laws that require that those wages be the prevailing
21 wages in each jurisdiction of both federal projects
22 under the Davis-Bacon Act and the 32 little Davis-Bacon
23 Acts in those and other states around the country. So
24 I've been involved on an ongoing basis in the process
25 for setting those rates and whether those rates are

1 reasonable as set by state commissioners.
2 Q. Now, just a point of clarification. You
3 refer to "we." Whom do you mean by "we"?
4 A. Well, I've done all of those things, but I'm a
5 partner in Osterberg and Sheehan. David Osterberg is
6 the other partner. We often work together as in, for
7 instance, on the LAS case. And I'm also, because it's
8 historical oddity, also a partner in Fisher, Sheehan
9 and Colton, which does public finance. So we have done
10 -- that's who the "we" is. Fisher, Sheehan and Colton
11 also does municipal collective bargaining on the union
12 side, and that often involves evaluation of municipal
13 costs and their revenue capability.
14 Q. And another clarification. You mentioned
15 solid waste transfer stations. Can you give -- can you
16 give the board an idea of the size or the capacity --
17 are we talking about something as big as a gas station?
18 Can you give an idea?
19 A. Well, some of them the buildings are acres
20 large. And for instance, one of them in Metro's
21 control are large enough -- it is just several acres.
22 It's two or three acres, just the building; and they
23 have everything in it for the processing and recycling
24 of all sorts of waste including telephone poles, mill
25 rolls from the plywood mills that we have in our area.

1 It's quite a remarkable facility to go into. And some
2 of them are relatively small. The one we deal with in
3 Columbia County is roughly the size of maybe two
4 blocks.
5 Q. So it's a complex technology in some of these
6 transfer stations?
7 A. Yes. Some of them, especially the larger
8 ones, deal with toxic waste recycling, and that's
9 interesting and complex. And they have to have, you
10 know, take special care with that stuff. They actually
11 have recycling programs there, and they have to be a
12 little bit careful of the kind of waste they're
13 bringing in from, just in general, as industrial or
14 commercial waste. You have to be careful of that.
15 Others are less complex.
16 Q. Have you had any experience with the
17 appropriate use of estimation of contingencies and use
18 of contingencies?
19 A. We have -- I have done, our partnerships have
20 done and I have been the one doing it, done some work
21 for Metro comparing Metro's contingency funds and
22 reserves to determine what an appropriate level was.
23 And in that particular study I compared that to the
24 Port of Portland's operation which runs the shipping
25 facilities in Portland, and also the PDX, the Portland

1 International Airport, and then also the Tri-Met bus
2 system which is owned by the governmental entity called
3 Tri-Met in the three-county area. So the study was to
4 determine what appropriate reserves were to handle
5 unknowns and contingencies on an ongoing basis year to
6 year.
7 Q. I'd like to turn to your involvement in the
8 HRI case. Could you explain your role in that case?
9 A. My role was as an expert witness and
10 primarily dealing with the issue of whether the
11 company, HRI, and its affiliates would have sufficient
12 financial resources to provide for safely
13 decommissioning the site.
14 Q. And is it correct that there were a number of
15 hydrological experts in that case?
16 A. There were a number of hydrological experts
17 in that case on the site of ENDAM, who was my client,
18 so I was the economist on the case and there were
19 hydrologists on the same team.
20 Q. With respect to pore volumes, would that have
21 been the role of the hydrologists, how many pore
22 volumes were needed?
23 A. Yes, exactly. They had done the studies and
24 the work on that; and then my role with respect to the
25 pore volume issue was simply to tie some kind of cost

1 number on it. But it was minor, a minor part of the
2 testimony that I proffered.
3 Q. And is it correct that the party you
4 represented prevailed on appeal in that case?
5 A. Yes.
6 Q. I'd like to turn now to cost estimates. Could
7 you tell us, to what degree of certainty should PFS
8 cost estimates have? And you can break that down into
9 construction and O&M, however is easiest for you to
10 answer that.
11 A. Let's take construction first. The degree of
12 certainty or -- degree of certainty, let's just say
13 that, ought to -- is necessarily related to the level
14 of risk involved if you have estimates that turn out to
15 be incorrect or go wrong. We don't want to have a
16 situation, of course, where the risk to the public is
17 heightened or security is compromised because you've
18 made an estimate that is too low, and therefore the
19 applicant tries to construct the facility with less
20 than enough funds.
21 So what we want to see in the estimate is
22 that the level of -- its assurance should be firm
23 enough such that the risk of it being wrong and having
24 the safety consequence is low. We don't want an
25 adverse safety consequence.

1 So we want those figures to be reliable.
2 And we look at level of reliability in the context of
3 not wanting to have a risk out there that's a hazard to
4 public health and safety and welfare.
5 Q. With respect to construction costs, do you
6 consider the construction costs that have been
7 proffered in this hearing a reasonable approximation of
8 costs to meet, for example, to meet the first license
9 condition?
10 A. Well, I don't. And that's not to say
11 anything bad about Mr. Takacs and Mr. Gase. I think,
12 given their assignment, they did an okay job, but I
13 think -- for what they were sent to do. But I think
14 their testimony was clear that what they were sent to
15 do is take largely back-of-the-envelope, as they said,
16 conceptual ideas and then attach a -- do some general
17 estimating.
18 So these were -- you remember that Gase and
19 Takacs had set forth a taxonomy with four levels on it,
20 and one was the conceptual level and one was
21 preliminary drawings, and one was more detailed
22 drawings, and one was construction level drawings. I
23 think that was it. And they were doing -- their
24 estimates were either at the first level of being
25 conceptual or preliminary, or the second level in some

1 cases, but not beyond that. With respect -- and they
2 were not meant to have a -- to be used for construction
3 or to give us an idea how much the actual construction
4 cost. These were very preliminary.
5 And so I think it's easy with respect to
6 construction, because PFS plans to build soon and will
7 have the actual bids. I think that there it is
8 felicitous that bids will be available relatively soon,
9 and that those can be -- the actual bids can be used
10 because then we can be sure, reasonably certain that
11 those numbers don't embody a great deal of risk with
12 connotations for public welfare. So I think in
13 construction that's relatively simple in this case.
14 Now, if we move on to O&M, then, I think
15 that in the O&M area we have substantial difficulties
16 because there's a lot of question of the O&M cost, and
17 by and large when we had Mr. Parkyn up here, you see,
18 he was relying on, he had in his hand the 1998 business
19 plan, and a lot of those costs are 1997 dollars. We
20 don't know what the vintage of the data was. It had
21 not been updated in the same way that the construction
22 cost estimates had been updated in the May 13th of this
23 year update. They were still, by and large, old
24 figures, and they had a lot of unknowns and
25 uncertainties associated with them.

1 So I think, as I said in my testimony, or at
2 least in my deposition, that they should have updated
3 those before they came here, that those estimates are
4 much more immature, shall I say, than perhaps even the
5 construction estimates, which are not what they ought
6 to be.
7 But there, certainly the actual estimates
8 ought to be based on a clear understanding, a clear
9 specification of what the project entails with respect
10 to whether we're going to do the intermodal transfer
11 point or the railroad. That could have substantial
12 consequences. We ought to get straight what size
13 project we're looking at, whether we're going to go for
14 10,000 or what, whether it's going to be 15 or
15 whatever. We need to get that straightened out,
16 because it's not up in the air. We have a lot of
17 scenarios and no definition.
18 We need to be certain that when indeed they
19 come in to satisfy the second license condition that
20 the vintage of the data is contemporaneous with the
21 time they intend to open the facility. So that's that.
22 All the data ought to be in the same year so it's
23 comparable, and it ought to have a firmly specified
24 project.
25 There might have been one other, and I can't

1 think of it right now.
2 Q. Is it important to know the sequence in which
3 the fuel will be received at the facility to understand
4 the year-to-year operations and maintenance costs?
5 A. I think that that certainly is important. We
6 have seen even in the discussion today that the rate and
7 timing in which the fuel comes into the facility will
8 determine many of the -- when the O&M costs show up.
9 So -- and also some of the costs for staffing.
10 And many other of the O&M costs depend upon
11 how fast and what the rate of arrival of the SNF is.
12 Now, recall Mr. Parkyn saying that the sequencing, that
13 each one of the service agreements may well have a
14 different arrival date for the SNF controlled by that
15 service agreement. So you would need to look carefully
16 at the service agreements to know when that fuel is
17 going to show up and when those costs are going to be
18 necessarily incurred.
19 Q. Mr. Silberg asked you numerous questions
20 about the intermodal transfer facility versus the Low
21 rail and whether the total estimate for Low was greater
22 than the total estimate for the ITF. With respect to
23 License Condition 1, and also with respect to License
24 Condition 2 to the same extent, is it correct that it's
25 not the total cost estimate of either the ITF or the

1 Low rail spur that needs to be demonstrated -- let's
2 just stick with license -- in License Condition 1 that
3 it's not the combined operating and maintenance costs
4 for the rail option. Is that correct?
5 A. Yes. The --
6 MR. GAUKLER: You mentioned operating and
7 maintenance.
8 MS. CHANCELLOR: Sorry; that again.
9 MR. GAUKLER: You mentioned operating and
10 maintenance in terms of Condition 1.
11 Q. (BY MS. CHANCELLOR) The question is, are
12 combined operation and maintenance costs required to be
13 shown in making the showing under License Condition 1?
14 A. No. You only need to show the construction
15 cost. And whereas the life cycle cost, which
16 combines -- which makes an analysis of the two costs
17 together might inform you as to which option you may
18 want to choose, still in all when you come to satisfy
19 the license conditions, you need to satisfy the
20 construction cost component of the total costs with
21 respect to License Condition 1, and then later on
22 satisfy the operating cost when you're doing --
23 satisfying License Condition 2.
24 Q. I need to correct my question. I believe I
25 said operating and maintenance. I meant O&M plus

1 construction. And I believe you responded to that. Is
2 that correct?
3 MR. SILBERG: Will you just repeat the
4 question so we'll have it in one place?
5 MS. CHANCELLOR: Okay.
6 Q. (BY MS. CHANCELLOR) With respect to License
7 Condition 1, is it correct that License Condition 1
8 does not require a showing of a combination of
9 construction costs and operation and maintenance costs?
10 A. That's true.
11 MS. CHANCELLOR: One last question. I
12 grossly underestimated how long it would take.
13 JUDGE BOLLWERK: Overestimated.
14 MS. CHANCELLOR: Overestimated. Just as
15 well.' I'm not doing these cost estimates.
16 Q. (BY MS. CHANCELLOR) Dr. Sheehan, in response
17 to many of Mr. Silberg's questions, you stated it would
18 be nice to have certain data or -- it would be nice if
19 PFS would choose a certain option. What did you mean
20 by nice?
21 A. Well, I think the ones you're thinking of, it
22 seemed to me that it was necessary. I shouldn't have
23 said it that way. It would be necessary in order to
24 accomplish the purposes manifested in 72-22 E, along the
25 lines of my response to your first question.

1 Q. And in particular did that -- did the
2 necessity of having the information, did that refer to
3 the vintage of the data?
4 A. Yes. That was one of the ones, I think I did
5 it more than once certainly with respect to vintage.
6 You need to know the vintage of the data, otherwise you
7 have no idea of the reliability of the data.
8 MS. CHANCELLOR: Thank you. I believe that
9 concludes my redirect.
10 JUDGE BOLLWERK: Any recross?
11 MR. SILBERG: No.
12 MS. CHANCELLOR: No.
13 JUDGE BOLLWERK: All right, then we're at the
14 point for board questions.
15 JUDGE LAM: Dr. Sheehan, in your prefiled
16 testimony you had indicated there are three major
17 deficient areas in applicant's cost estimates: One,
18 omission; two, uncertainty; three, unsupported
19 assumptions.
20 If I may ask you to take a step back and
21 tell us first on omission. There are two items, I
22 mean, two items as you list in your prefiled testimony;
23 in the construction cost estimate, there are missing
24 cost items; and also in the O&M cost estimate there are
25 either 11 or 12 missing cost items as well. May I ask

1 you to think about or come up with an estimate, how
2 significant are these missing cost items, bearing in
3 mind we had on the record the construction cost
4 estimate is at the order of [redacted], the O&M cost
5 estimate over a 40-year period is at the order of [redacted]
6 [redacted]dollars. With that in mind, please share with
7 us in your opinion, or by whatever analysis you may
8 have, how significant are these missing cost items?
9 THE WITNESS: All right. Do you happen, sir,
10 to have the page number on that?
11 JUDGE LAM: Yes, indeed. If you would go to
12 page 22 of your prefiled testimony on missing
13 construction costs.
14 THE WITNESS: Okay. Some of the costs, as
15 you will notice here, for instance, the cost of the
16 ambulance probably is not by itself large in the
17 overall picture. An ambulance is probably under a
18 hundred thousand dollars, something like that.
19 JUDGE LAM: Okay.
20 THE WITNESS: Some of the costs, for
21 instance, the [redacted] we're talking
22 about [redacted], all of a sudden we are at four and
23 a half percent. The detention pond and probable
24 maximum flood barrier, I don't know the answer. These
25 are categories that didn't appear to be there.

1 With respect to the PFS administrative
2 oversight cost, I think we're talking, if I remember
3 correctly, another somewhere -- it's a multimillion
4 dollar figure, if I remember correctly.
5 The intermodal transfer facility, we don't
6 have the four-mile access road to the ISFSI or the cost
7 of the heavy haul trucks. Those trucks, if you've seen
8 the diagram of those trucks, those trucks are 163 feet
9 long or something like that, specially made. I imagine
10 those are pretty pricey, but I don't have the figure in
11 my head. Ten thousand dollars or something. I suspect
12 it's a bundle. But I don't know the exact amount.
13 But I wouldn't be surprised if we're
14 thinking of things that are half a percent or bigger,
15 that you would certainly want to check on that and have
16 those numbers brought forward to see. Seems to me
17 they're liable to be much more expensive than an
18 ambulance, since they're specialty items.
19 Okay, so those are those.
20 Now, you know, I have in my mind -- it's not
21 exactly with respect to your question, but in our
22 county we wanted to build a new courthouse, and the
23 estimate was $1.4 million at a certain time, and the
24 money available was only a million. So they did value
25 engineering, and now -- it's not, you know, a highly --

1 it's not a dangerous facility, doesn't have toxins or
2 something, but instead they put in all single-pane
3 glass instead of double-pane glass. The plumbing is
4 bad, the heating is bad. And we suffer from those
5 losses all the way through the life of that building
6 because they're missing that extra component of a
7 thousand dollars.
8 So in terms of here, if we're talking in the
9 range of five to ten million dollars on the
10 construction budget, we look at that and we say, what
11 might you buy with that five to ten million dollars if
12 you're going to try to save money on it? And that
13 might be a significant corner. And why do it? If
14 we've identified the costs and have them manifested
15 here, certainly since they plan on doing this fairly
16 soon, why wouldn't we just say, just fix it, and then
17 when we come into license condition we want something
18 that's up to date and valid.
19 JUDGE LAM: I hear you. As a matter of fact,
20 you answered my next question, which was really, based
21 on the magnitude of the uncertainty, what consequence
22 would you have?
23 THE WITNESS: Yes, sir.
24 JUDGE LAM: But you have answered. Now,
25 would we be looking at similar magnitude of

1 significance on the missing costs in O&M items?
2 THE WITNESS: Well, sir, I think from a
3 conceptual point of view I would not compare it to the
4 total O&M costs over a 40-year horizon. I would
5 compare it missing costs with respect to the annual O&M
6 costs. So an accident happens in a particular year,
7 the danger arises in a particular year. And so if we
8 see -- let me stop here. Could you tell me where it
9 was that we were talking about the missing costs?
10 JUDGE LAM: Yes. Page 31.
11 THE WITNESS: The debt financing cost, for
12 instance, if they decided to use the debt financing
13 option, just the debt financing related cost in the --
14 just with respect to the railroad, that was a million
15 dollars just with respect -- without the debt
16 financing, as I recollect, it was [redacted], and
17 with the debt financing, as you -- you know, it was [redacted]
18 [redacted] up front. And then you had interest
19 payments of around [redacted] a year.
20 So if we were going to have a cost estimate
21 that was let's say assumed that it was going to be
22 funded by payments and then was funded by debt, we
23 could be talking about a couple of million dollars a
24 year. And again, in looking and saying if you lose a
25 couple million dollars a year that you might

1 appropriately, perhaps should have had, what would it
2 come out at? What would you save on in order to make
3 up that difference? What is out there that you
4 might -- that you'd say, I'll give this up in order to
5 make up that two million dollars a year.
6 So instead of looking at the [redacted]
7 [redacted] over a 40-horizon, I would look at it on a
8 year-by-year basis.
9 Let's see what else we have here. We've
10 talked a little bit about the canister and the cask
11 cost. The cost of, for instance, the [redacted] for
12 making a cask not including the concrete and the labor
13 to actually form the cask and do all that. My
14 experience with concrete mason wages is that they can
15 be substantial. And it's not quite clear to me and it
16 was never said, as far as I can see, how many hours
17 would be required, but -- and how much -- and the
18 amount of the concrete. When you multiply that out,
19 you have 4,000 of these casks over time. So in any
20 particular year it might be a large amount or it might
21 be relatively small, depending on how many casks you're
22 doing each year.
23 JUDGE LAM: But why would that be a concern?
24 We have on the record here that the applicant would
25 collect the money for the cask one year prior to

1 receiving the shipment.

2 THE WITNESS: I know. It is a little bit,

3 certainly a conundrum. And my concern with respect to

4 that issue is that the applicant has made a lot of

5 statements saying, this is what we're going to do,

6 which are not manifested in license conditions, and as

7 I have tried to point out, it's not clear whether

8 they're saying this is our current intention but it

9 might change, or they are saying, by golly, no matter

10 what happens, this is what we're going to do. And I've

11 pointed that out.

12 We do not have at all the language in the

13 service agreements that tells us what the actual

14 language is going to be that binds all these customers.

15 We haven't been allowed to see that. So we don't know.

16 They have also said they're going to negotiate

17 separately some or all of the service agreements.

18 And I might point out as well that these

19 are, at least for the partners, not arm's-length

20 negotiations. They are the partner's own PFS, and they

21 are negotiating with themselves as partner customers

22 over the language in the service agreements. In that

23 kind of conflict of interest where you have the

24 partners as PFS negotiating with themselves as

25 partners, as customers, I'm not sure that you can

1 guarantee that the service agreements, or you'd want
2 some scrutiny of the service agreements to make certain
3 that that conflict of interest was not manifested in
4 those things to the disadvantage of the public.
5 Did that answer your question?
6 JUDGE LAM: Yes, indeed.
7 THE WITNESS: Thank you.
8 JUDGE LAM: Did you go over every item?
9 THE WITNESS: I'm sorry.
10 JUDGE BOLLWERK: Trying to make sure Judge
11 Lam gets his question answered.
12 JUDGE LAM: As a matter of fact,
13 Dr. Sheehan, I am not asking you to go over line by
14 line, item by item estimate. I'm really asking for you
15 a global view of the significance collectively of these
16 missing cost items.
17 THE WITNESS: Yes. I think that the --
18 certainly the -- with respect to the exclusions in the
19 nuclear property insurance, I think that that's a
20 problem, that that could be a potentially very
21 significant exclusion if things like these F-16's and
22 cruise missile accidents -- an accident involving that
23 stuff were to occur, it would be significant on a
24 radiological basis. If the insurance did not cover it
25 and it was difficult to get the money back from the Air

1 Force, that could cause substantial problems for the
2 public.
3 And if you'll permit me, let me also say
4 that we have -- if we visualize a box with four
5 squares, and know we have on-site property insurance of
6 ostensibly [redacted], we are not sure, and it's not
7 at all clear to me that we have off-site property
8 insurance.
9 Secondly, we have off-site liability
10 insurance but we don't have on-site liability
11 insurance. Two of the four boxes, they can -- on-site,
12 off-site, property, liability has four boxes. Two of
13 those boxes have big question marks, and the other two
14 boxes have 200 million for off-site liability, question
15 mark for on-site liability, and we have [redacted] for on-site
16 property, and we have a question mark for off-site
17 liability.
18 So in terms of your question with respect to
19 the insurance cost, I'm not at all clear that there is
20 any kind of uniform coverage for the possibilities. So
21 I think that even perhaps more so with respect to the
22 operating costs, there are serious and substantial
23 areas of possible risks to the public because the
24 amounts here and the risks are substantial and the
25 estimates are old. The estimates we are basically

1 working off of are 1997 dollars and the 1998 business
2 plan with some few updates by Mr. Parkyn, and I think
3 that it would be certainly a good thing or a necessary
4 thing in terms of minimizing the risk by narrowing,
5 specifying the project clearly and addressing the
6 issues at this point, that these are -- most of these
7 are substantial items.
8 JUDGE LAM: Thank you, Dr. Sheehan.
9 JUDGE BOLLWERK: Judge Kline?
10 JUDGE KLINE: No.
11 JUDGE BOLLWERK: I just have a clarifying
12 question in terms of your suggestion or your position
13 that the bids need to be I guess in on term of the
14 construction cost before an assessment can be made I
15 guess to financial assurance. So you would see in
16 terms of this proceeding or in terms of how the staff
17 operates, how would we interact for those bids? Do we
18 have to wait to make any financial assurance
19 determination before the bids came in?
20 THE WITNESS: Well, to be honest with you --
21 JUDGE BOLLWERK: You can take it separately,
22 the board and the staff. I'll leave it up to you.
23 THE WITNESS: To be honest with you, I have
24 scratched my head a little bit as to the purpose of
25 this particular hearing on this issue, given that the

1 costs that we are seeing now seem to me to be, as I've
2 said, immature, and that we appear to be rushing to
3 meet our deadline, or the deadline for the license
4 issuance of November 2001 when we have rushed ahead of
5 the level of the estimates. The level of the
6 estimates, in my view, are not ripe for maturity.
7 They're not for a specific well-defined project and so
8 on, the other things I've mentioned in that connection.
9 If it's true, as Mr. Parkyn says, that the
10 project intends to send the bids out sometime around
11 the summer of 2001 to have them back in time for the
12 hoped issuance of the license in November of 2001, then
13 it seems to me, at least for the purpose of meeting the
14 license condition, meeting the license condition as
15 opposed to determining what this board should say right
16 now in this connection, that having the bids would
17 certainly be a relevant thing for satisfying the
18 license condition. That's one thing.
19 As to the determination of whether these
20 estimates are adequate as they stand for all the
21 reasons I've set forth in my testimony today, I think
22 that they are probably not -- or that they certainly
23 are not, for the reasons I've said, the project's not
24 well defined, the costs are, half of them are old.
25 They've had this confusion about pass-through costs.

1 There are a lot of problems. And the need, the
2 apparent need to get done and have their license in
3 time to meet this November 2001 deadline has led them
4 to try and do this proceeding with costs that are not
5 quite ready.
6 Kapitz and Gase's process, they're just now
7 beginning to do the detailed drawings. They said
8 that's going to take 12 months. We're really probably
9 about 12 months ahead of ourselves here.
10 And so I would say that, in my opinion, that
11 the cost estimates we've seen here are not ready. These
12 are not good enough. And perhaps you can solve the
13 problem with respect to construction by just requiring
14 the actual bids at the time of the satisfaction of the
15 license condition. But if it were up to me, I would
16 say that these are not adequate right now.
17 JUDGE BOLLWERK: All right. Any other
18 questions for the board, then? Any questions from the
19 parties, then, based on the board's questions?
20 MR. SILBERG: I just have a few.
21 RECROSS-EXAMINATION
22 BY MR. SILBERG:
23 Q. With respect to your answer to Judge Lam's
24 question on answer 32, are you saying that none of the
25 costs reflected in that -- none of the costs for the

1 items reflected in that answer have been repeated in
2 applicant's testimony presented in this hearing?
3 A. No, I think that we have -- if I remember
4 correctly, that we've got some of this with respect to
5 the ambulance and the response and perhaps the security
6 vehicles. But I think that --
7 Q. What about the detention ponds?
8 A. Also.
9 Q. And the probable maximum flood barrier?
10 A. Actually I don't remember that one, but I'm
11 not saying it's not there. But those were the smaller
12 items.
13 Q. And the administrative costs?
14 A. The administrative costs, in
15 cross-examination Mr. Parkyn, as I recollect, said that
16 indeed that those costs that had been listed as not
17 construction costs ought to be included in here.
18 Q. In your answer 49 when you were talking about
19 items that were missing there, you said if there were
20 debt financing, somehow we would lose two million
21 dollars that would have to come out of some other part
22 of the budget to pay for that. Did I understand you
23 correctly?
24 A. Well, I gave that as an example, you recall.
25 That was only with respect to financing [redacted] for

1 the Great Salt Lake --
2 Q. I'm not concerned about the absolute number.
3 A. Yes, it was -- those were the approximate
4 interest payments on an annual basis.
5 Q. And based on the testimony that you've heard
6 several times, wouldn't you agree that if PFS included
7 those debt financing costs by financing for its
8 individual customers that you would have an increased
9 income that would offset those additional costs from
10 those customers?
11 A. Well, we may or we may not, Mr. Silberg. We
12 have never seen the service agreements. We cannot know
13 that without seeing the service agreements.
14 Q. With respect to insurance, I believe you said
15 that there is no on-site liability coverage.
16 A. As I understand it, there's no on-site
17 liability coverage. There may be a commercial policy.
18 I think they have a $15,000 a year policy. I think I
19 saw that. But I don't believe that there's a
20 radiological --
21 Q. Are you saying that Price-Anderson doesn't
22 cover liability anywhere except for the workers at the
23 site that are covered by workers comp?
24 A. I don't think I said anything about Price-
25 Anderson in that context.

1 Q. Well, what about nuclear -- isn't nuclear
2 liability, on-site nuclear liability covered?
3 A. I don't believe it is. I think you can look,
4 for instance, at the letter from the assistant general
5 counsel -- or the general counsel of the NRC, in a
6 formal letter, admittedly. But I think you can also
7 look in the study that was put out last year, spanning
8 the bridge or --
9 MS. CHANCELLOR: Crossing.
10 A. Crossing the bridge. I think they discuss
11 that in there, if I remember correctly.
12 Q. You're saying the nuclear liability insurance
13 policy that PFS will obtain will not cover on-site
14 nuclear liability? Is that what you're saying?
15 A. As I understand it, it is a, quote, off-site
16 liable policy.
17 Q. What do you base that understanding on?
18 A. I think I've read it.
19 Q. Where?
20 A. I mean, I'd have to go through and find it,
21 but I believe -- I believe it is off site; and if you
22 say it's not, we have something that is just a problem
23 of going and verifying.
24 Q. And why do you say that property damages off
25 site are not covered?

1 A. My understanding from reading the standard
2 policy, that off-site property damage, off site, this
3 is for premises.
4 Q. What is for premises?
5 A. The on-site property insurance policy that
6 you provided us a standard copy of --
7 Q. You're talking about coverage for PFS
8 property off the reservation? Is that what you're
9 referring to?
10 A. Yes.
11 Q. Didn't you hear Mr. Pickerl say that that
12 would be covered as part of the site in the off-site
13 property?
14 A. I think he may have said something about the
15 ITF. You remember we didn't resolve that between us.
16 He may have said something about the Low right-of-way
17 on the Low -- the trains coming down Low, but I don't
18 recollect him saying that all the off-site property
19 would be covered.
20 Q. What other off-site property is there?
21 A. For instance, let's say that you have
22 your -- one of your trains is in Lancaster,
23 Pennsylvania and runs off of a trestle and is
24 demolished. Is that covered under the off-site -- the
25 on-site property insurance?

1 MR. SILBERG: I think the record covers that.
2 I have no further questions.
3 JUDGE BOLLWERK: Anything from the staff?
4 MS. MARCO: Yes, just one thing.
5 JUDGE BOLLWERK: This may save some time if
6 we allow them to go first.
7 MS. CHANCELLOR: Oh, absolutely. I wasn't
8 trying to jump the gun.
9 RECROSS-EXAMINATION
10 BY MS. MARCO:
11 Q. In Exhibit 31, isn't that true that
12 Mr. Reamer is not the general counsel?
13 MS. CHANCELLOR: Did you say 31 or -- Exhibit
14 30, correct?
15 MS. MARCO: Yes.
16 A. I'm sorry. Mr. William Reamer is senior
17 supervising attorney, or at least was at that time,
18 1999, for the Nuclear Regulatory Commission.
19 MS. MARCO: Just wanted to clarify that.
20 JUDGE BOLLWERK: I know Bill Reamer. I know
21 who he is. Any -- was that the only question you had?
22 MS. MARCO: That is it.
23 /
24 FURTHER REDIRECT EXAMINATION
25 BY MS. CHANCELLOR:

1 Q. I only have two questions, two lines of
2 questions. Dr. Lam referred to the fact that PFS is
3 going to collect money up front for cask manufacturing.
4 Do you recall that?
5 A. Yes.
6 Q. And to the best of your knowledge, will PFS
7 escrow or dedicate those funds specifically for cask
8 manufacturing?
9 A. I don't recall that they had a trust fund for
10 that.
11 Q. Isn't it true that these funds could be used
12 for other purposes?
13 A. Yes. I think it goes to general revenues.
14 Q. With respect to another issue Dr. Lam raised,
15 he asked in regard to cost estimates to give some
16 global concerns. Is the significance or the confusion
17 in which PFS has used pass-through costs, is that part
18 of your global concerns?
19 A. Certainly. The implication of PFS's
20 treatment of pass-through costs, and I put costs all
21 the time in quotes, because these -- they're really
22 talking about revenues and not costs. Costs are costs.
23 They go on the line of other costs. And the fact that
24 they plan to bill for them in a different way doesn't
25 make them any less costs.

1 So I think that it's a little, well, I don't
2 want to say a slight-of-hand, but I think that it's
3 important to eliminate the confusion about that,
4 because it tends to cast the impression that because
5 they are going to get a different check from whoever's
6 paying for this that therefore it means that the cost
7 is not a cost.
8 Q. In terms of meeting the license conditions,
9 even if the costs and revenue net out, is it your
10 consideration that for purposes of demonstrating the
11 estimated costs under the license conditions that PFS
12 needs to show the costs that may be passed through to
13 its customers?
14 A. Absolutely. They would show their total sum
15 of costs and then show their commitments they have, and
16 one of those commitments might be the commitment to pay
17 a direct check to PFS for something specific. That's a
18 revenue source, the type of revenue. It is not -- does
19 not mean that it's not a cost.
20 Q. You testified that you have been involved for
21 the past -- since the 70's in reviewing various
22 projects and that there's certain accounting
23 structures. Have you ever seen an accounting structure
24 such as the one PFS is using?
25 A. I think I haven't. I mean, there's so many

1 different kinds of things that they have here in terms
2 of statements. They're not in a standard form that
3 way. That might be all right if the numbers in them
4 were logical and they were organized according to some
5 reasonably useful system. But given all the problems
6 that we've discussed earlier as to the difficulties
7 with the actual numbers, the problem with the form
8 doesn't help, but it's the actual numbers that are a
9 problem.
10 Q. And are the costs that PFS tags as
11 pass-through, are these costs significant or are they
12 minor costs?
13 A. They're 70 percent or so of the entire O&M
14 budget. They dwarf everything else.
15 MS. CHANCELLOR: I have no further questions.
16 Thank you.
17 JUDGE BOLLWERK: Anything anyone else wants
18 to ask or say? Judge Lam? Judge Kline?
19 All right. At this point, then, I believe
20 the examination of Dr. Sheehan is concluded.
21 Sir, we thank you for your time and your
22 service to the board, and you are dismissed subject to
23 being recalled if necessary. Thank you very much.
24 Is there anything else administratively we
25 need to do on the record at this point?

1 All right, then, at this point we stand
2 adjourned in terms of the hearing itself until next
3 Tuesday, which will readjourn at nine o'clock. We will
4 be having the limited appearance sessions tomorrow in
5 the afternoon and the evening, and also on Saturday
6 afternoon. So at this point we stand adjourned.
7 (Proceedings adjourned at 5:15 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.

Lavette Shendelberg

Official Reporter

Ann Riley & Associates, Ltd.

Pursuant to a joint agreement among the parties, Sheets 1 through 21 of the Word Index to the June 22, 2000 Transcript have been redacted in their entirety.