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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

PEOPLE OF THE STATE OF ILLINOIS,

Petitioner,

vs.

No. PCB 99-191

PANHANDLE EASTERN PIPE LINE COMPANY,

Respondent.

Proceedings held on September 22, 2000, at 9:35 a.m., at
the offices of the Illinois Pollution Control Board, 600 South
Second Street, Suite 403, Springfield, Illinois, before John C.
Knittle, Chief Hearing Officer.

VOLUME V

Reported by: Darlene M. Niemeyer, CSR, RPR
CSR License No.: 084-003677

KEEFE REPORTING COMPANY
11 North 44th Street
Belleville, IL 62226
(618) 277-0190

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A P P E A R A N C E S

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

BY: Robb H. Layman
Dennis E. Brown
Assistant Counsel
Division of Legal Counsel
1021 North Grand Avenue East
Springfield, Illinois 62794-9276
On behalf of the Illinois EPA.

STATE OF ILLINOIS, OFFICE OF THE ATTORNEY GENERAL

BY: Sally A. Carter
Assistant Attorney General
Environmental Bureau
500 South Second Street
Springfield, Illinois 62706

SEYFARTH SHAW

BY: Eric E. Boyd
Attorney at Law
55 East Monroe, Suite 4200
Chicago, Illinois 60603
On behalf of Panhandle Eastern Pipe Line
Company, Inc.

SEYFARTH SHAW

BY: Susannah A. Smetana
Attorney at Law
1270 Avenue of the Americas, Suite 2500
New York, New York 10020
On behalf of Panhandle Eastern Pipe Line
Company, Inc.

DUKE ENERGY

BY: Phillip S. Deisch
Assistant General Counsel
Environmental, Health and Safety
5400 Westheimer Ct.
Houston, Texas 77251
On behalf of Panhandle Eastern Pipe Line
Company, Inc.

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1 E X H I B I T S

2

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P R O C E E D I N G S

(September 22, 2000; 9:35 a.m.)

HEARING OFFICER KNITTLE: We are on the record. Today is September 22nd. It is approximately 9:35 a.m. We are continuing with the hearing in PCB 1999-191, People of the State of Illinois versus Panhandle Eastern Pipe Line Company. We are continuing with the case-in-chief of the respondent.

I think there is only one member of the public here. I think, if I am not mistaken, that is Mr. Layman's wife, correct?

MR. LAYMAN: That would be correct.

HEARING OFFICER KNITTLE: Is it Mrs. Layman?

MR. LAYMAN: Yes.

HEARING OFFICER KNITTLE: Mrs. Layman, do you want to provide public comment here today?

MRS. LAYMAN: No thank you.

HEARING OFFICER KNITTLE: She is indicating no. So we will proceed with the case-in-chief.

Mr. Boyd, you can call your first witness.

MR. BOYD: We call Jasbinder Singh.

HEARING OFFICER KNITTLE: Mr. Singh, come on up and have a seat.

Would you swear him in, please, Darlene.

(Whereupon the witness was sworn by the Notary Public.)

HEARING OFFICER KNITTLE: Mr. Boyd.

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1 J A S B I N D E R S I N G H,
2 having been first duly sworn by the Notary Public, saith as
3 follows:

4 DIRECT EXAMINATION

5 BY MR. BOYD:

6 Q. Good morning, Mr. Singh.

7 A. Good morning.

8 Q. Are you currently employed?

9 A. Yes.

10 Q. How are you employed?

11 A. I am employed by Policy Planning & Evaluation, Inc.

12 Q. What is that?

13 A. It is my company, doing consulting work.

14 Q. How long have you had your own consulting company?

15 A. For 23 years.

16 Q. What kind of consulting services does your company
17 provide?

18 A. At this time it can be divided into basically two parts,
19 the litigation support services, mostly of the type that we are
20 talking about, the BEN type services. And then I do economic
21 analysis of federal regulations for industries.

22 Q. How long have you been providing the litigation support
23 type services?

24 A. About ten years.

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1 Q. How about the economic analysis of federal regulations?

2 A. That has been almost for 23 years.

3 Q. Can you describe, when you first began your own company
4 23 years ago, what kind of work you were doing?

5 A. I started off -- the first couple of assignments had to
6 do with determining economic impacts of noise control regulations
7 on four industries, the snow mobile industry, the bus industry,
8 motorcycle industry, and then there was another one.

9 (Whereupon a document was duly marked for purposes of
10 identification as Panhandle Exhibit 22 as of this date.)

11 Q. (By Mr. Boyd) I am going to hand you what has been
12 marked as Panhandle Exhibit Number 22. Can you identify this?

13 A. This is my resume.

14 Q. Is it current?

15 A. Yes.

16 Q. Could you briefly describe your educational background?

17 A. I have a bachelor of technology degree in civil
18 engineering and a master of science degree in civil engineering
19 and I was in the Ph.D. program in regulatory economics at
20 Carnegie-Mellon University from 1970 to 1973.

21 Q. Could you briefly describe the course work involved in
22 your civil engineering undergraduate degree?

23 A. We had a five year program which focused, obviously, on

24 civil engineering, which has to do with the design of structures,

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1 various kinds of structures, mechanics of soils, for dealing with
2 the bearing capacity of soils, to be able to support various
3 buildings and structures. Hydraulics. But we also had a
4 substantial number of courses in chemistry and in physics and
5 English and a couple of courses in economics and accounting.

6 Q. From where did you obtain your undergraduate civil
7 engineering degree?

8 A. From Indian Institute of Technology in Madras, India.

9 Q. When did you obtain that degree?

10 A. In 1967.

11 Q. You said you obtained a master of science degree in
12 civil engineering, as well?

13 A. Yes.

14 Q. And when did you obtain that degree?

15 A. In 1969.

16 Q. Where did you obtain that from?

17 A. From Carnegie-Mellon University.

18 Q. Can you briefly describe the course work that you took
19 to attain your master's degree?

20 A. It was -- there were advanced courses in design of
21 structures, but my focus was mostly on the mechanics of soils.

22 Q. Can you -- you also mentioned you were in the Ph.D.

23 program. Where was that?

24 A. At Carnegie-Mellon University, too.

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1 Q. Was that from 1970 to 1973?

2 A. Yes.

3 Q. Can you describe for me what that program entailed?

4 A. The program is based on -- was based at that time on
5 quantitative economics, and I took a series of courses in
6 economics, including welfare economics. There were courses in
7 operation, research and management science that are very highly
8 quantitative. Some of the topics covered might be linear
9 programing, nonlinear programing, dynamic programming, and so
10 forth.

11 Q. Can you just explain generally what regulatory economics
12 is?

13 A. It generally focused on how federal government regulates
14 the businesses.

15 Q. Did you obtain a Ph.D. degree?

16 A. No.

17 Q. Why not?

18 A. I was doing research on safety and efficacy of drugs.
19 Specifically, I was located for a time being at the Food & Drug
20 Administration in Washington, DC, looking at how they make
21 decisions about the safety and efficacy of drugs. And I
22 developed a simulation model which had to be tested. And my

23 university basically said you have to publish a paper in this
24 area but, you know, it is up to you to get the data, the

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1 necessary data to simulate, to verify that model. And neither
2 the FDA nor the drug companies would give me the data to test the
3 model, and at that point I stopped.

4 Q. What did you do after being involved in the Ph.D.
5 program at Carnegie-Mellon?

6 A. I was immediately employed by a company called
7 International Research & Technology in the Washington, DC area.
8 And that's where I did the first project on the economic impacts
9 of federal regulations on the four industries that I mentioned.

10 Q. How long were you with International Research &
11 Technology?

12 A. I was there I believe about two years.

13 Q. From about 1973 to 1975?

14 A. That's right.

15 Q. What kind of work did you do with them?

16 A. That was -- those four studies were part of -- one part
17 of the project. And then I was working for about nine months or
18 so on a study of the worldwide automobile industry. At that
19 point, as you know, the oil prices had gone up and there were --
20 the sales of big cars had gone down substantially, and that was
21 sort of the impetus for doing this study at that point.

22 Q. Did you do anything else when you were with that
23 organization, do you recall?

24 A. Not that significant that I remember, no.

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1 Q. What did you do -- where was that located?

2 A. In Arlington, Virginia, just outside Washington, DC.

3 Q. What did you do after leaving International Research &
4 Technology?

5 A. For a very brief period I joined Bolt, Branek & Newman.
6 That is B-O-L-T, B-R-A-N-E-K, and Newman. That is a noise
7 control company. I don't know whether they -- I would think that
8 they still are in business. They were involved in noise control,
9 and we were just going to do economics of noise controls with
10 them.

11 Q. What did you do after working with them?

12 A. I joined a big management consulting firm called Booth,
13 Allen & Hamilton.

14 Q. When was that?

15 A. I am sorry?

16 Q. When was that?

17 A. That should have been in the later part of 1975 or the
18 early part of 1976.

19 Q. How long were you with them?

20 A. About two years.

21 Q. What did you do with them?

22 A. Two separate types of projects. One had to do with the
23 noise controls again. They were also involved. They were a
24 competing consulting firm. And I became involved with the

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1 Department of Energy, and I believe at that point it was the
2 Federal Energy Administration. We were looking at residential
3 appliances and what energy standards would do to the appliance
4 industries.

5 Q. What do you mean, what it would do to the industries?

6 A. Meaning in terms if -- at that point, the furnaces, for
7 example, in the homes were very inefficient. And the standards
8 were going to come out and basically required them to be much
9 more efficient. So the question was which people would go out of
10 business, how the prices would rise, and things like that.

11 Q. Did you leave Booth, Allen & Hamilton?

12 A. Yes.

13 Q. What did you do after that?

14 A. I started my own firm.

15 Q. And what was the impetus for you starting your own firm?

16 A. It was basically that I was doing most of the work in
17 dealing with the clients and the federal agencies, and I felt
18 that I could get the contracts myself. And that really was the
19 impetus.

20 Q. Now, you said at the beginning that you were working on

21 economic analysis of federal regulations. Can you explain that
22 kind of work in general for us, when you first began your firm?

23 A. Well, that work has changed quite a bit. When we first
24 did it, it was a bit unsophisticated. I will explain that. But

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1 later on it became much more sophisticated, where the emphasis
2 was more on plant closures, whether some of the existing plants
3 would close. And the question really was how do you find out
4 which plants would close, what they had to get from those plants,
5 how do you analyze the financial statements for those companies,
6 and how do you then discount some of the costs that were going to
7 be imposed upon these plants. And then at a later stage we got
8 into what sort of costs of capital ought to be used to discount
9 those investments.

10 Q. At some point did you become involved in products
11 involving the analysis of economic benefit due to alleged
12 noncompliance with regulatory requirements?

13 A. That came, actually, much later, more in the 1989, 1990
14 time frame. I was involved in -- we can go over that. I was
15 involved in a number of enforcement type programs or projects,
16 and I had expressed my desire to do this work for the private
17 industry, and a number of -- a couple of people in the EPA gave
18 me contacts in the industry side, saying if you want to work you
19 can go work on that side.

20 Q. So --

21 A. And at that point I started doing the economic benefit
22 of noncompliance.

23 Q. Before that time were you doing work for the EPA?

24 A. Before that was entirely, for the most part, for the

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1 EPA, but some Department of Energy and some Department of
2 Interior.

3 Q. What kind of work were you doing with the EPA?

4 A. Really, the work can be divided into essentially two
5 parts. One has to do with the economic and policy analysis. And
6 the second part is what I would call the enforcement type work,
7 even though it is sort of policy oriented. And as a part of the
8 enforcement work I developed the RCRA penalty policy.

9 Q. I am sorry? The --

10 A. The Resource Conservation and Recovery Act penalty
11 policy. I did a project on the benefits of including
12 environmental auditing provisions and enforcement settlements. I
13 did a project on environmental management practices. I developed
14 a model for ability to pay of municipalities. I think those are
15 sort of the projects that are related to enforcement. Then there
16 was sort of all of the economic impact. I was involved with the
17 drinking water program, the groundwater program, the RCRA
18 program, the policy office in the EPA, essentially doing a series
19 of economic and policy analysis projects.

20 Q. When you say economic and policy analysis projects, what
21 do you mean by that?

22 A. Economic impacts, I have mentioned, for example, I --
23 the government -- let's take an example where under the Clean
24 Water Act the EPA sets -- establishes effluent guidelines. And

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1 as a part of the regulatory package, they have a report on the
2 economic impacts of the regulations of the industry being
3 regulated. And then there is also a technical document which
4 says this is what the industry will have to implement or do in
5 order to comply with the regulations. We were developing the
6 economic -- what should I say -- the economic part of the -- the
7 economic document, essentially, the back up document. We did
8 that for a series of regulations and for a series of industries.

9 The policy work, there was sort of -- there were many
10 projects, actually. It would be difficult to state all of them.
11 But let's say one of the projects had to do with the municipal --
12 with the small municipality issues came up, and the then
13 administrator, Thomas, I believe, he went around the country and
14 he was asking people what are your problems. And the small
15 municipalities were saying the federal regulations are affecting
16 us tremendously and you need to do something. So he came back
17 and asked the policy office to do a study of the municipalities,
18 the impacts on the municipalities. So I did a study of the
19 impact of all of the regulations on municipalities.

20 And what came out of that was that the small municipalities
21 did not have the wherewithal to comply with the regulations. And
22 then so Administrator Thomas, as well as other people, took on
23 that issue and had a series of initiatives about reducing impacts
24 on small municipalities.

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1 Q. During this time did you do any work for the EPA
2 involving the impacts of regulations on nonmunicipalities?

3 A. Well, all of the work on the economic impacts for the
4 most part is on different industries and different firms. I
5 would say about 90 percent of that work is on nonmunicipal
6 entities.

7 Q. Can you give us an example of the kind of work that you
8 did during that time frame for evaluating economic impacts of
9 regulations on nonmunicipal entities?

10 A. Well, one of the -- again, going back to the effluent
11 guidelines, the EPA came out with effluent guidelines on the
12 non-ferrous melting and refining industry and the foundry
13 industries, a couple of those industries. And we -- all of the
14 non-ferrous industry have to do with cobalt and nickel and
15 whatever goes into ferrous or iron type industries or iron
16 production, I should say.

17 Q. You are saying ferrous, F-E-R-R-O-U-S?

18 A. Yes, ferrous, yes, and non-ferrous alloys. Or ferrous

19 alloys. I am sorry. So we had to find out what the impacts
20 were. We collected data from the plants and identified which
21 plants were there and then collected data from them and evaluated
22 whether some plants were going to close or not. Part of our work
23 is to find out what methodology should be used to determine
24 impact on the entire industry, not just for individual firms.

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1 Q. Now, what, in this background, gave you the experience
2 to begin your work evaluating economic benefit of alleged
3 noncompliance of regulatory requirements?

4 A. There were basically two parts there. One really would
5 have to do with the cost of capital issues. How do you calculate
6 cost of capital of a firm using the data that we can get from the
7 financial statements or from the stock market. How do you get --
8 calculate the cost of a subsidiary of a corporation that is not
9 traded, whose stock is not traded. And to analyze financial
10 statements of the firms to look at various financial ratios to
11 see whether they are sound or not, and things of that sort. So
12 that is sort of one aspect of it.

13 The second part is really the net present value
14 calculations. We have these companies who are going to be
15 required to spend money with increases in capital costs as well
16 as operating costs. And the question was really how do you
17 discount them. So that work was done repeatedly for a good ten
18 years or so.

19 Q. I am sorry. When you say ten years, you mean --

20 A. Over a period of ten years many regulations, many
21 industries. The methodology to be employed was tailored to each
22 industry, you know. For example, the foundries consist of a
23 very, very large number of small firms. How you look at that
24 industry is a little different than say the non-ferrous and

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1 ferrous melting and refining industry, which is much larger. So
2 we tailored the methodology to those industries.

3 Q. You have used the term cost of capital. What is that?

4 A. Well, capital in a firm really consists of two parts.
5 That is the debt that the firm takes on to finance its latest
6 investments, and then there is the stock. That is what it --

7 Q. You also mentioned net present value. What is that?

8 A. Net present value is really the present value of a
9 future stream of costs discounted to the present time.

10 Q. Do you recall when you first became involved in
11 analyzing the economic benefit of an alleged noncompliance
12 situation?

13 A. Would you like me to discuss the case?

14 Q. Is there a case?

15 A. Yes.

16 Q. A particular case?

17 A. A particular case.

18 Q. Okay. When was that?

19 A. I don't remember the exact time, but I believe it was
20 around 1989 or 1990.

21 Q. Do you remember the case name?

22 A. It was Pernell Sausage from Louisville, Kentucky, or
23 close to Louisville. They must sell in this area.

24 Q. Okay. What did you do in relation to that case?

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1 A. They were making sausages, of course. They were not
2 treating the effluent properly from making the sausage. And I
3 was asked to come in and analyze the economic benefit that they
4 may have gained.

5 Q. I am sorry. You were asked by whom?

6 A. I was asked by their lawyers.

7 Q. Okay. Have you done work involving the analysis of
8 economic benefit of alleged noncompliance since that time?

9 A. That has been the major part of the revenue of the
10 company. I have worked on about 35 different cases.

11 Q. When you say you have worked on 35 different cases, what
12 you do mean by that?

13 A. Like this case here, and other pipeline cases, cases
14 like that, about 35 of them.

15 Q. Okay. Have you offered testimony before involving those
16 cases?

17 A. I have offered testimony in the federal court, in two

18 cases.

19 Q. Could you identify those for us?

20 A. One was the U.S. versus Roll Coater. And another one
21 was the Bethlehem Steel Corporation. It was the U.S. versus
22 Bethlehem Steel Corporation.

23 Q. Okay. Let's start with Roll Coater. When were you
24 involved in that matter?

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1 A. I believe in 1989 or 1990. I am not really sure. It
2 was early on.

3 Q. What role did you play in that matter?

4 A. Well, there were several important issues, but two in
5 which the court ruled in my favor. One was -- has to do with the
6 cost of capital. Until that point, the U.S. EPA used to use the
7 cost of equity for discounting purposes. I felt that was not
8 correct, and so in that case I testified to that one aspect.

9 Q. The court agreed?

10 A. The court agreed with me on that issue.

11 Q. Okay.

12 A. Since then the EPA has changed the model to reflect the
13 weighted average cost of capital discounting. The second issue
14 has to do with whether the costs incurred by the company should
15 be taken into account in calculating the economic benefit. Up
16 until that point, it had been the traditional practice that

17 whatever costs the company incurs, the EPA was taking that number
18 into account in calculating the economic benefit.

19 In this particular case, the treatment plant -- in this
20 particular case, the company had violated the Clean Water Act and
21 not built a waste water treatment plant, and the treatment plant
22 was designed to serve three production lines. At that particular
23 point the company only had two production lines in place. So I
24 argued that only a portion of those costs should be taken into

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1 account to reflect -- to reflect the share of these two lines.
2 The court agreed with me on that issue, too.

3 Q. You also mentioned the Bethlehem Steel case?

4 A. Yes.

5 Q. Did you offer testimony in this case?

6 A. I did.

7 Q. Okay. Let's go back to the Roll Coater case for a
8 second. Where was that case?

9 A. In the Southern District of Indiana, in Indianapolis.

10 Q. Where was the Bethlehem Steel Case?

11 A. Burns Harbor. I believe it is the Northern District of
12 Indiana.

13 Q. What role did you play in the Bethlehem Steel case?

14 A. I calculated the economic benefit in the RCRA case.

15 Q. I am sorry?

16 A. The RCRA.

17 Q. RCRA?

18 A. RCRA, yes. You pronounce it a little differently here.
19 I am sorry. In that particular case I calculated the economic
20 benefit in accordance with the scenarios that were developed by
21 the attorney. The scenarios didn't sit too well with the judge,
22 and didn't get well reflected in the final opinion. Although the
23 opinion was later overruled by the appeals court.

24 Q. Have you offered any other testimony in federal court on

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1 the economic benefit issues?

2 A. No.

3 Q. Have you written anything about your analysis of
4 economic benefit issues?

5 A. I have been very active, mostly for competitive reasons
6 and also for intellectual reasons, in publishing papers. If I
7 may draw attention to the last page of my resume. I have written
8 five papers on the BEN Model.

9 Q. Why don't you start with the earliest one. Is it the
10 last one, number five?

11 A. The last one is -- no, five is the first one.

12 Q. That's what I meant, the first one.

13 A. The last one has to do with -- actually, that is number
14 one. It has to do with the wrongful profits in the Dean Dairy
15 case. It was really a question of whether competitive

16 advantage -- gain due to competitive advantage should be taken
17 into account in calculating the economic benefit. This is an
18 area which is an untested area, and so I wrote an article about
19 that, covering all aspects.

20 Q. Was that published in the Toxic Law Reporter in February
21 of 1999?

22 A. No, it was published in Environmental Law Reporter in
23 February of 1999. That is a mistake.

24 Q. What is the second one listed here?

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1 A. The second paper really reflects almost ten years of my
2 experience where I found that in many cases the economic benefit
3 of noncompliance was negative.

4 Q. What do you mean by negative?

5 A. Meaning that in those cases the company -- the companies
6 lost money rather than gaining money due to noncompliance. And
7 the question really was why. Why is it that the EPA's BEN Model,
8 B-E-N, an acronym, gives the positive number whereas my
9 calculations were showing negative numbers. The result of that
10 article is that the EPA's BEN Model does not reflect the actual
11 situations in the real world and does not reflect all of the
12 consequences of noncompliance as well as compliance, for that
13 matter.

14 Q. What was that third article listed here?

15 A. The third article -- in fact, the third and fourth

16 articles deal with the raging battle in this area. It has to do
17 with, again, the discounting issue. And there are people who --
18 my competitors, actually -- they claim that the after-tax
19 risk-free rate should be used, rather than the weighted average
20 cost of capital, but after-tax risk-free rate should be used to
21 discount the future cash flows. I have taken in this case that
22 the EPA's position is -- that that advocated position is
23 incorrect.

24 Q. I am sorry. The advocated position about using the

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1 after-tax --

2 A. Yes, the after-tax free-rate is actually incorrect, and
3 I lay out my reasons in those articles.

4 Q. What affect would using the after-tax risk-free rate
5 versus the weighted average cost of capital have on an economic
6 benefit analysis?

7 A. It would really reduce the economic -- the estimate of
8 economic benefit very substantially.

9 Q. What about the fifth article that is listed here?

10 A. The fifth article was the first one where I had come
11 across a number of situations -- a limited number of situations
12 at that time, when I found that the economic benefit of
13 noncompliance was negative, and I found that the technical reason
14 in the BEN Model why that -- why the result was -- the technical

15 reason for the fault in the BEN Model. That was that the
16 compliance costs as of the date of noncompliance were assumed to
17 be equal to the compliance costs as of the date of compliance,
18 which means the same -- the EPA had assumed that if you spent
19 some money now to comply that is exactly what you should have
20 spent back then when you were -- when the noncompliance began.

21 I found that that assumption was incorrect. So that was
22 the first time that I wrote an article that that was incorrect,
23 because we find many situations in which those two costs are
24 different.

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1 Q. Say that again. What two costs are you talking about?

2 A. The compliance costs as of the date of noncompliance and
3 the compliance costs as of the date of compliance.

4 Q. Okay. Now, you have mentioned the BEN Model. Can you
5 tell us what that means, what that is?

6 A. BEN is sort of an acronym for benefit. That's the EPA's
7 coined acronym for calculating the economic benefit of
8 noncompliance, and that is what the EPA uses. It uses it itself
9 and then it makes it available to the states to use. And over
10 time it has made many changes. And I should say that one of the
11 changes it has made is just this one that I mentioned. Now they
12 do allow --

13 Q. I am sorry. Which one did you mention?

14 A. This has to do with cost of compliance as of the date of

15 compliance -- as of the compliance date, and the cost of
16 compliance as of the noncompliance date. Now they allow these
17 two costs to be different starting last year, I believe, in April
18 of 1999.

19 Q. Over the years, have there been -- strike that. Have
20 you provided any comments to the EPA regarding how the BEN Model
21 calculates economic benefit?

22 A. I have submitted comments on my own on these -- on the
23 various issues that I have mentioned and have actually given them
24 a series of examples to that effect.

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1 Q. What changes have been made to the BEN Model or the BEN
2 Manual as a result of your comments?

3 A. Well, I would like to think that they have been made as
4 a result of my comments. But I think the EPA has its own
5 reasons, too. One is the weighted average cost of capital. That
6 was, of course, put in by them. And then this last one that I
7 mentioned, about the two cost estimates to be different, that was
8 done as well. Those are the two major changes. There are some
9 minor explanation changes and so forth.

10 Q. Now, we talked about the Roll Coater case and the
11 Bethlehem Steel case. I have just a couple of quick questions
12 about the Roll Coater case. Were you qualified as an expert to
13 provide expert opinion in that case?

14 A. I was qualified as an economic and an engineering
15 expert.

16 Q. What about the Bethlehem Steel case?

17 A. I don't recall, but I believe I was, on both accounts.

18 Q. Now, we have been talking about economic benefit in this
19 case and through your testimony. What is economic benefit?

20 A. In a simple sense economic benefit is the financial gain
21 realized by a violator. It is an estimate of financial gain.
22 The idea behind that is to take the financial gain away, to
23 put -- in order to put a violator in the same position he would
24 have been in if he had complied on time.

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1 Q. How do you generally approach determining whether an
2 entity has had an economic benefit as a result of an alleged
3 noncompliance?

4 A. I generally prefer to go to the plant or alleged
5 violating plant and talk with the various engineers who run the
6 plant, the engineers who design the control equipment or the
7 necessary control equipment. I talk with the environmental
8 engineers as well to see what regulations need to be followed.

9 But just generally focus on the manufacturing operations,
10 because I think in calculating the economic benefit you must
11 first look at it in a commonsensical way, to see what really
12 happened and develop the facts of the case, to see whether --
13 even before we do any calculations does it make sense to assume

14 that the company may have gained an economic benefit.

15 Q. What do you mean by that?

16 MR. LAYMAN: Objection. Asked and answered.

17 HEARING OFFICER KNITTLE: Mr. Boyd?

18 MR. BOYD: I am just asking him to elaborate on what he
19 just said.

20 HEARING OFFICER KNITTLE: Why don't you rephrase the
21 question.

22 MR. BOYD: Sure. Do you mind if I have it read back. I am
23 sorry.

24 THE COURT REPORTER: Mr. Boyd, do you need the question and

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1 the answer read back?

2 MR. BOYD: Yes, please.

3 HEARING OFFICER KNITTLE: Yes, if could you please read it
4 back.

5 (Whereupon the requested portion of the record was read
6 back by the Reporter.)

7 MR. BOYD: Oh, I am sorry. I meant just his answer.

8 (Whereupon the requested portion of the record was read
9 back by the Reporter.)

10 (By Mr. Boyd) What do you mean does it make sense to assume
11 that they had an economic benefit?

12 A. I will give you a very simple example. Let's suppose

13 that as of the date of compliance, now that we know what the
14 particular company is going to put in, let's suppose that that
15 particular equipment is much more efficient. That equipment is
16 much more efficient than the equipment that the company was
17 using. And that would mean that the company would have saved
18 on -- saved money on operating costs if it had installed this
19 efficient equipment back as of the date of noncompliance. So it
20 would have saved all of that money. So, therefore, it would not
21 make sense to assume that they gained an economic benefit.

22 Q. Okay. Thank you. When were you first asked to provide
23 assistance to Panhandle in relation to this matter?

24 A. I believe it was in -- I don't remember the exact date,

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1 but it was before I went to India, okay, so it has to be around
2 October of 1999.

3 Q. Of 1999?

4 A. Yes.

5 Q. And what were you asked to do?

6 A. I was initially asked to look at -- I was told that -- I
7 don't remember exactly what I was told, but I was supposed to --
8 I was told that the pipeline industry is a regulated industry,
9 and to provide -- to think about whether there would be an
10 economic benefit in such cases, and I developed an opinion as a
11 result of that.

12 Q. Were you being paid for your work on this matter?

13 A. Yes.

14 Q. Is your compensation at all related or dependent upon
15 the opinion you are going to provide today?

16 A. No.

17 Q. Through your work have you developed an understanding of
18 the -- what is the alleged noncompliance in this case?

19 A. Yes.

20 Q. Can you describe that for me? What was the basis of
21 your understanding?

22 A. It is basically that Panhandle had not installed BACT
23 control, that is B-A-C-T, controls in the 1988 time frame.

24 Q. And failed to install BACT controls on what?

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1 A. On two engines, 1116 and 1117.

2 Q. Okay. Sir, I am going to direct you to the People's
3 Exhibit 8 through 23. Let me see if I can find them for you up
4 there.

5 MR. BOYD: We seem to be missing 11.

6 MS. SMETANA: It has not been admitted.

7 MR. BOYD: Oh, it has not. Okay. That is fine. Okay.

8 Thank you.

9 HEARING OFFICER KNITTLE: Exhibit 11 is the supplemental
10 report of respondent's economic benefit.

11 MR. BOYD: Okay. Thanks. That is fine.

12 Q. (By Mr. Boyd) Let me just ask you, do you have in front
13 of you Exhibits 8, 9 and 10, and then Exhibits 12 through 23?
14 These are People's Exhibits 8, 9 and 10, and then People's 12
15 through 23?

16 A. Yes.

17 Q. Let's start with the first three. Have you seen those,
18 People's Exhibits 8, 9 and 10 before?

19 A. Yes.

20 Q. When did you see them?

21 A. I believe these are the latest -- 8, 9 and 10, I am
22 seeing them for the first time now.

23 Q. Okay.

24 A. And then the other ones, in various forms over the

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1 last -- since April, I believe, or some --

2 Q. Again, just referring you to 8, 9 and 10, I wanted to
3 direct your attention to People's Exhibit Number 8 for a minute.

4 A. Uh-huh.

5 Q. If you could look at the column marked D, initial
6 capital investment, and look at the dollar amount at the bottom
7 of that.

8 A. Uh-huh.

9 Q. The 1,973,582, it looks like. Do you know where that
10 number came from?

11 A. That number is approximately -- it is approximately

12 twice the number, of the capital cost number given in the PSD
13 application, the cost of BACT controls. And also I don't know
14 whether it is the same or very close to the number that the State
15 had used in doing -- in calculating its economic benefit, the
16 first one.

17 Q. Can you tell me, do you have an understanding of -- what
18 PSD application are you referring to?

19 A. I believe it was the PSD application, a copy that was
20 given to me around the December or January time frame or perhaps
21 in that time frame submitted by Panhandle to the State.

22 Q. You don't know when that application was submitted by
23 Panhandle to the State?

24 A. I don't recall the date on that application. I am

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1 sorry.

2 Q. Okay. Do you have an understanding of how that BACT
3 cost number for initial investment was determined?

4 A. How they were determined?

5 Q. Yes.

6 A. I believe part of it was that Panhandle determined some
7 costs internally and some were reports. But I don't have really
8 firsthand knowledge of that.

9 Q. You had --

10 A. And -- I am sorry. And some of the -- we will come to

11 the operating costs later. They were determined based on the
12 EPA's guidance as to how those costs should be calculated.

13 Q. Do you have any criticism about using that initial
14 capital cost number in this manner to determine an economic
15 benefit?

16 A. Yes. I have not only in this case, but I have been
17 involved in many BACT related cases in the past and in every one
18 of them those numbers were incorrect for the purpose of
19 calculating an economic benefit.

20 Q. Why do you say that?

21 A. I don't know all of the reasons, but one is that in the
22 BACT application the companies are required to -- or they feel
23 the pressure to show that the cost of controls is high in order
24 to cross a certain threshold. That is one. So, secondly,

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1 that -- and that's all the people objective -- the people's
2 objective is. But actual costs are very different, and actual
3 costs that should be taken into account in calculating the
4 economic benefit are also very different.

5 Q. Now I would like you to turn to People's Exhibit Number
6 9 for a minute. Do you see that?

7 A. Sure.

8 Q. What is this table attempting to do, do you know?

9 A. This takes into account the annual operating costs that
10 are reflected here as recurring costs, and calculates the

11 economic benefit due to those costs.

12 Q. What recurring cost number do they use?

13 A. They used 467,742 as of -- in 1999 dollars.

14 Q. Do you have an understanding of where that number came
15 from?

16 A. I believe that number also came from the PSD
17 application.

18 Q. Do you have a criticism about using that number to
19 determine the economic benefit due to avoiding annual recurring
20 costs?

21 A. Yes. It basically is totally incorrect. It does not
22 reflect what really happened at the location.

23 Q. Okay. Why don't you put 8, 9 and 10 aside for a second,
24 then?

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1 A. Okay.

2 Q. And go back to 12 through 23.

3 A. Okay.

4 Q. Again, People's Exhibits 12 through 23?

5 A. Okay.

6 Q. Can you describe generally what these sheets are?

7 A. These are the State's calculation of economic benefit
8 using the capital and operating costs that I determined, but
9 using different time frames, I believe, and using different

10 discount rates.

11 Q. Now, you said the cost that you determined. What do you
12 mean?

13 A. I am sorry?

14 Q. You said something about using the costs that you
15 determined. What do you mean by that?

16 A. Well, I had determined that in 1987 it would have taken
17 an additional \$368,815.00, and these are year 2000 dollars, to
18 achieve compliance back in 1987. So, for example, People's
19 Exhibit Number 12 reflects that capital cost number.

20 Q. Where does it reflect that?

21 A. On line 15, column D.

22 Q. If you look at People's Exhibit Number 13 for a second.
23 Does that chart use a recurring cost number, as well?

24 A. Yes.

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1 Q. Okay.

2 A. This is, again, the costs that I calculated which would
3 have been the increasing costs had they complied back in 1987,
4 and the number is, in year 2000 dollars, \$29,806.

5 Q. Is it your understanding that each of the sheets and --
6 well, let's go back here. In People's Exhibit Number 12,
7 People's Exhibit Number 15, People's Exhibit Number 18, and
8 People's Exhibit Number 21, each use the cost you determined as
9 the initial capital investment?

10 A. Yes.

11 Q. Is it your understanding that the other sheets each used
12 the recurring cost number that you determined?

13 A. Yes.

14 Q. Okay. Thank you. Can you identify on People's Exhibit
15 Number 15 where the initial cost number that you came up with is
16 located?

17 A. It is on column D, line 14.

18 Q. What about on People's Exhibit Number 18?

19 A. On column D, line 13.

20 Q. What about People's Exhibit Number 21?

21 A. It is also on column D, line 13.

22 Q. Now, bear with me a minute. If you could go to People's
23 Exhibit Number 13. Where is the number that you calculated
24 regarding the recurring cost in 2000 dollars?

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1 A. Yes, in column D, line 14.

2 Q. On the next sheet, People's Exhibit Number 14, is that
3 number reflected there as well?

4 A. Well, the calculations reflect that number, but I don't
5 see the actual number.

6 Q. Okay. If you go to People's Exhibit Number 16 for a
7 minute.

8 A. Exhibit 16?

9 Q. Yes. Does this include the recurring cost number that
10 you calculated?

11 A. Yes.

12 Q. Where is it located? If I could just direct your
13 attention to the column D, line 14, is that it?

14 A. Yes, uh-huh.

15 Q. And the next page, People's Exhibit Number 17, is the
16 number on that page?

17 A. The same, where the number is not given, but the
18 calculations reflect that number.

19 Q. If you could look at People's Exhibit Number 19 for a
20 minute.

21 A. Okay.

22 Q. Is the number you calculated regarding the recurring
23 costs located on this page?

24 A. Yes, on column D, line 13.

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1 Q. What about People's Exhibit Number 20?

2 A. The same, no number given, but the calculations reflect
3 the number.

4 Q. And, finally, if you look at People's Exhibit Number 22
5 is your recurring cost number reflected here?

6 A. Yes, column D, line 13.

7 Q. And what about the next page, People's Exhibit Number
8 23?

9 A. Yes, the number is not there, but the calculations
10 reflect the number.

11 Q. I would assume you don't have a -- well, strike that.
12 Do you have any criticism regarding the manner in which the State
13 has calculated an economic benefit using those numbers?

14 A. I have basically three criticisms of this. The weighted
15 average cost of capital that is used here is, according to me,
16 incorrect. The second is that these calculations show only
17 partial economic benefit and has not taken into account all the
18 affects that should be taken into account. And the third is that
19 there are some small mistakes, which I think Mr. Styzens made
20 because he was in a hurry. We can correct those.

21 I was going to say that there is a fourth one on the
22 People's Exhibit Number 21, 22 and 23. The bank prime loan rate,
23 this -- these calculations take into account bank prime loan rate
24 rather than the weighted average cost of capital. If you want to

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1 take those, that prime loan rate into account, it should be an
2 after-tax loan rate and not a before tax. And that would have a
3 major effect on the net result.

4 MR. BOYD: Mr. Hearing Officer, we have been speaking now
5 for about an hour and five minutes. I would suggest that this
6 would be a good place for a break.

7 HEARING OFFICER KNITTLE: Mr. Layman?

8 MR. LAYMAN: No objection.

9 HEARING OFFICER KNITTLE: All right. We will take a break
10 now.

11 (Whereupon a short recess was taken.)

12 HEARING OFFICER KNITTLE: All right. We are back on the
13 record.

14 Mr. Singh, let me remind you that you are still under oath.

15 THE WITNESS: Thank you.

16 MR. BOYD: Before I continue, I would like at this time to
17 move for the admission of Panhandle Exhibit Number 22 into
18 evidence.

19 HEARING OFFICER KNITTLE: Is that the resume?

20 MR. BOYD: Yes.

21 MR. LAYMAN: No objection.

22 HEARING OFFICER KNITTLE: That is admitted.

23 (Whereupon said document was duly admitted into evidence as
24 Panhandle Exhibit 22 as of this date.)

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1 Q. (By Mr. Boyd) Mr. Singh, have you prepared a report that
2 discusses your criticism of how the State calculated economic
3 benefit in this case?

4 A. Have I submitted my --

5 Q. Have you prepared a report?

6 A. Yes, I have.

7 (Whereupon a document was duly marked for purposes of

8 identification as Panhandle Exhibit 23 as of this date.)

9 Q. (By Mr. Boyd) Okay. Let me hand you what has been
10 marked as Panhandle Exhibit Number 23. Can you identify this
11 document for us?

12 A. This is the series of worksheets that reflect my
13 criticism of what the State has done and has some of the
14 background information.

15 Q. You are going to have to speak up. I am having trouble
16 hearing you.

17 A. Yes. I am sorry. Yes. It is my criticism of what they
18 have done.

19 Q. Okay.

20 A. Basically.

21 Q. You mentioned earlier that one of your criticisms
22 related to the determination of weighted average cost of capital?

23 A. Yes.

24 Q. Describe, in general, your criticism of the weighted

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1 average cost of capital calculation?

2 A. There are really two pieces of criticism. The general
3 is -- I should say the general approach is okay. It is an
4 acceptable approach that Dr. Nosari used. But there are two what
5 I would claim are mistakes, if I could go over those.

6 Q. Certainly. Are you looking at some page in your report?

7 A. Yes. In this detailed worksheet --

8 Q. Actually -- I am sorry. What page are you looking at?

9 If I could direct your attention to page -- the fourth page from

10 the back.

11 A. Okay.

12 Q. What are you describing on this page?

13 A. This page actually calculates the growth factor that Dr.

14 Nosari used, and I believe I calculated in my way, and in the

15 correct way.

16 Q. Let's go back just a second. You are talking about

17 weighted average cost of capital. Does that have more than one

18 component?

19 A. It has essentially two components. One has to do with

20 the debt and the other one, the equity.

21 Q. When we are talking about equity, is that what we are

22 talking about in relation to -- is the growth factor a component

23 of the calculation of the equity?

24 A. Yes.

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1 Q. Okay. Do these pages refer to your criticism regarding

2 the growth factor that Mr. Nosari used?

3 MR. LAYMAN: Objection. Leading.

4 MR. BOYD: I am just trying to direct his attention.

5 HEARING OFFICER KNITTLE: Can you rephrase, Mr. Boyd?

6 MR. BOYD: Sure.

7 Q. (By Mr. Boyd) What do these two pages represent?

8 A. These two pages actually reflect two things. One is
9 what is the correct growth factor and the second is that if we
10 use the numbers in the way Dr. Nosari used that you could come up
11 with very inconsistent growth factor calculations and, therefore,
12 it should not be done that way.

13 Q. Do you know what the growth factor that Mr. Nosari used
14 in determining the weighted average cost of capital was?

15 A. I believe he used eight percent.

16 Q. Do you know how he determined that?

17 A. How did he determine that?

18 Q. Yes.

19 A. I believe he took the stock price of Panhandle Eastern
20 Corporation on the last trading day of 1987, and I don't remember
21 exactly what that number was, but I believe it was 20.25. And
22 then he took the stock price on the last trading day of 1996,
23 which was 45, to determine how much appreciation had taken place
24 in the stock of the company.

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1 Q. Do you have a criticism with choosing the stock prices
2 in the way that he has done?

3 A. Yes.

4 Q. Can you describe that for us?

5 A. Okay. If we go to actually the third page from the

6 back, which shows the --

7 Q. Does it say growth factor, page two at the top?

8 A. Yes.

9 Q. Okay.

10 A. I took -- we are talking about a period of about ten
11 years here. On any given day the stock price can vary very
12 substantially from the stock price another day. And it is
13 important that -- well, what this calculation shows, like in the
14 first part here, I took the stock price on October 2nd of 1986 on
15 the one hand and then September 27th of 1996 on the other hand,
16 and I come up with a growth factor of 3.34 percent. If I take
17 the stock price on 12-31-86, and then I go to 12-29-86, I come up
18 with a growth factor of approximately zero.

19 Q. I am sorry. I think you said 12-29-86. It looks like
20 it says 12-29-95. Is that what it says?

21 A. Yes, it is actually 1985. I was using different time
22 periods to show what that would do.

23 Q. Those prices, just so I am clear, those are the closed
24 stock prices as of that day?

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1 A. As of that day.

2 Q. Okay.

3 A. Then I took one from 12-31 of 1987 through 09-27 of
4 1996, and I come up with a growth factor of 5.667.

5 Q. What is the purpose of this page, sir?

6 A. The purpose of this page it so show that you can pick
7 any two numbers during this period. We don't have to pick a
8 number as of the date of compliance or the date of noncompliance.
9 We are talking about sort of an average growth factor during this
10 period. Actually, we can even go to a little bit before that,
11 depending on the conditions in the market. So I am just showing
12 that by picking different numbers you can come up with completely
13 different results. And so what was sort of the next step would
14 be --

15 Q. Before you get to that next step, so picking the numbers
16 that Mr. Nosari used those two points in time, he came up with an
17 eight percent growth rate?

18 A. Yes, yes.

19 Q. Okay. If you go back to the first page, the one that
20 says calculating the growth factor using Pan Energy's stock price
21 data, what are you doing there?

22 A. Well, it is really -- the first one just simply lists on
23 different dates here the two columns for prices. One is a price
24 on that date, the first column. Like for 09-30 of 1986 is 25.25,

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1 and the next column is actually not a 30 week average. It is a
2 26 week average that the Standard & Poor's stock reports
3 calculate and reflect in their complied data.

4 Q. Could you stop there for a second. Do you know what

5 that information is used for?

6 A. Which information?

7 Q. Why does Standard & Poor's calculate a 26 week average,
8 if you know?

9 A. In order to really find out, I called them and I talked
10 to the people who actually compile these records. They say that
11 the investors demand a --

12 MR. LAYMAN: Objection. We are getting into an area that
13 is going to be considered in the normal course, I think, hearsay.

14 HEARING OFFICER KNITTLE: Mr. Boyd, explain why this is not
15 hearsay.

16 MR. BOYD: Because he is basing his opinion on discussions
17 that he has had with someone. If he is using his information
18 that he has been provided by someone else, he should explain what
19 the basis of the information is.

20 MR. LAYMAN: I don't know that we have any foundation for
21 it at this point.

22 HEARING OFFICER KNITTLE: Sustained.

23 MR. LAYMAN: And even if we did, it might still constitute
24 hearsay.

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1 Q. (By Mr. Boyd) Why did you choose the 26 week average to
2 calculate a growth factor?

3 A. We know that using single day prices lead to
4 inconsistent results. So that really what I wanted to do was to

5 take some sort of an average, and the average -- you think of the
6 situation in this manner. Let's suppose that a very large number
7 of investors buy the stock during this -- a certain period in
8 1986 or 1987 or 1988 time frame. And those very people, maybe
9 100 of them or whatever, they sell the stock in the time period
10 of 1996 that we are talking about. On average what sort of gain
11 would they have realized.

12 That is what you are really after, to see what they will
13 gain in the process. And so you need some sort of an average.
14 And it so happens that the Standard & Poor's stock report
15 contained the 26 week average number. And for me that was the
16 most -- given the time pressure, the most expedient and correct
17 thing to do. I may have taken maybe a 13 week average or so
18 forth, but a 26 week average is just as perfectly -- as perfect
19 as you can actually get.

20 Q. Okay.

21 A. So I used those numbers in calculating the growth
22 factors.

23 Q. Can you explain how you used those numbers to calculate
24 a growth factor?

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1 A. Well, I took the 26 week average as of 12-31-87, which
2 is 27.05. And let me just stop for a second here or explain
3 here, that the stock market crash took place in October of 1987.

4 And the price of the stock went down pretty substantially after
5 that. And, actually, as we know, as of 12-31-86, it had come
6 down to 20.25. So this particular number takes essentially three
7 months after the stock market crash and three months before that.
8 So it essentially evens out the fluctuation and gives us 27.05.
9 And then I took September 27th of 1996, which is the last day of
10 the quarter in 1996, a 26 week average.

11 I didn't want to go to 12-31 of 1996, because it is -- if
12 you look at the daily stock prices, you will find that the stock
13 price started going up very rapidly after September of 1996,
14 because of the impending merger with Duke Energy. So that entire
15 period gave me a reasonably long period and stable numbers.

16 Q. What growth factor did you determine using those --

17 A. 2.07 percent.

18 Q. What difference would that make if you use a 2.07
19 percent growth factor versus the eight percent factor that Mr.
20 Nosari used in his weighted average cost of capital calculations?

21 A. Well, not only just -- in what aspect? I can discuss
22 maybe one -- there is a six percent difference on -- in the cost
23 of equity numbers.

24 Q. Do you have any other criticisms about how the weighted

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1 average cost of capital number was determined by the State?

2 A. I believe the cost of debt was not calculated correctly.

3 Q. What do you mean by that?

4 A. Well, Dr. Nosari used total interest during the year
5 paid and divided that by essentially the long-term debt.

6 Q. I will refer you to People's Exhibit Number 27. Is that
7 what you are talking about?

8 A. I only have up to 23. Okay. Yes, the --

9 Q. I am sorry. I think I interrupted your question. Go
10 ahead. Or your answer.

11 A. Okay. On line 15, column F, the interest expense from
12 the income statement is 134,358. That is the total interest from
13 short-term debt and long-term debt, and then Dr. Nosari divides
14 that by the current portion of the long-term debt, plus the
15 long-term debt of \$1.2 million, and comes up with his cost of
16 debt before tax of 11.15 or 16 percent.

17 Q. What is wrong with that?

18 A. What he should have done, and I understand the data
19 probably was not available, is done one of two things. One is
20 taken the total interest number, 134,358 and subtracted the
21 short-term interest expense, or interest expense on the
22 short-term debt and then divided by this number on line 16, or
23 all of lines -- I should not say all of the lines. To line 16 he
24 should have added the short-term debt of the company at that time

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1 and done the calculations.

2 Q. I will refer you to the last two pages of your report.

3 Can you describe what these two pages are?

4 A. These essentially duplicate the calculations that Dr.
5 Nosari did about weighted average cost of capital. The first
6 sheet here reflects my calculations. The numbers that I took I
7 took from Moody's Public Utility Manual. And so that the
8 numbers -- my numbers are slightly different than what Dr. Nosari
9 took from the annual reports or the 10-K reports for the same
10 years. And the second page, actually, we redo Dr. Nosari's
11 calculation with the 2.07 percent growth factor and with the
12 corrected -- well, what should I call it? The corrected -- the
13 cost of debt. And what we find is the two calculations give
14 almost exactly the same results.

15 Q. What do you mean, almost exactly the same results?

16 A. Well, if I compare my calculation for 1987, for example,
17 my --

18 Q. Your calculation for weighted average cost of capital?

19 A. Weighted average cost of capital for 1987 is 8.147
20 percent.

21 Q. Where do you see that?

22 A. It is on the second sheet from the back, column D, and
23 on line 52.

24 Q. I am sorry. You were comparing that to the duplication

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1 of Mr. Nosari's WACC worksheet?

2 A. Yes. And at the bottom of --

3 MR. LAYMAN: Excuse me. Just for the record, that is the
4 last page of the supplement?

5 MR. BOYD: The last page, exactly.

6 THE WITNESS: That is for the year 1987. The cost of
7 capital for that year at the very bottom is also 8.1474.

8 Q. Do both these sheets use the corrected 2.07 percent
9 growth rate?

10 A. Yes.

11 Q. Do both of these sheets use -- strike that. How do
12 these sheets calculate the cost of debt?

13 A. They both take into account my numbers, which are I took
14 the cost of -- I am sorry. The interest on long-term debt, and
15 in order to find the cost of debt I took interest of long-term
16 debt and divided by the long-term debt itself, and both of these
17 numbers are available from Moody's Public Utility Manual. So
18 that is sort of the correct way to do it.

19 If we include the short-term debt, it is likely that the
20 cost of debt itself might go up slightly because short-term
21 expense is usually -- short-term debt is usually more expensive
22 than long-term. But it won't make a material difference in the
23 calculations.

24 Q. Given the changes you just described to the growth rate

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1 and the cost of debt number, how does that change the -- what the

2 weighted average cost of capital is for the year 1987 through I
3 guess 1995 or 1996?

4 A. Well, if I -- I don't have Dr. Nosari's calculation in
5 front of me, but --

6 Q. Let me just refer you then to People's Exhibit Number 7.
7 It should be up there to the left.

8 A. Okay. For 1987 my number is 8.147 percent. This is on
9 the second sheet from the back, column D, line 52. And Dr.
10 Nosari's calculations show, again, on column -- in People's
11 Exhibit Number 7, column E, line 42, is 11.7482 percent. He
12 didn't have any number for 1988, but used 1987 number in his
13 calculation, which would be 11.74 or 75 percent. And my
14 calculations come up with only 6.84 percent.

15 Q. That's in --

16 A. So there is a substantial difference between them.

17 Q. Is it fair to say one could compare the cost of capital
18 numbers on line 42 of People's Exhibit Number 7 and line 52 of
19 the second page from the back of Panhandle Exhibit Number 23 and
20 see that for each year the numbers you calculated were below the
21 weighted average cost of capital numbers?

22 A. Yes, and I calculated the averages, and I don't have Dr.
23 Nosari number, the average number here. But I remember his
24 average was about 10. -- over this entire period 10.0 some

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1 percent. And my number is 6.868 percent, so the net affect of

2 about three percent or so. A little more than three percent.

3 Q. What does that matter?

4 A. Well, this number actually feeds into all of the
5 economic benefit calculations and the economic benefit calculated
6 by Mr. Styzens in all of the -- in People's Exhibits starting
7 with I guess 12 through 23, is it, would be overstated
8 substantially, actually.

9 Q. If I could direct your attention to the second page of
10 Panhandle Exhibit Number 23. It is marked at the top economic
11 benefit due to delayed capital costs, 2.07 percent growth. Do
12 you see that?

13 A. Yes.

14 Q. Can you describe this document? What are you doing
15 here?

16 A. Well, really duplicated I guess the previous version of
17 Dr. Nosari's -- well, maybe Mr. Styzens' calculations with
18 corrected weighted average cost of capital. I was trying to see
19 how far off we were from their calculations.

20 Q. Can you just take us through 1987, for instance, or 1988
21 or something and explain how you did this?

22 A. Okay. Really, the first -- I am sorry. They don't have
23 the column numbers here, unfortunately. But the fourth column,
24 of course, is the delayed capital investment.

1 Q. If you will go down to the bottom. I am sorry. Where
2 it says December of 1999 at the bottom there?

3 A. Okay. Yes.

4 Q. The 368,815, what is that number?

5 A. That's the number -- the capital costs number that I
6 calculated and it reflects the amount that would be required to
7 comply in 1987 in year 2000 dollars.

8 Q. Is that the same number that the State used in
9 calculating an economic benefit in People's Exhibit Numbers 12,
10 15, 18, and 21?

11 A. Yes.

12 Q. Okay. I am sorry. Go ahead.

13 A. And then using essentially the same numbers that Mr.
14 Styzens used for the plant cost index and annual inflation, my
15 numbers are slightly different because I could not read their
16 numbers, and the numbers I got were slightly different for some
17 reason. But they're essentially the same. We find out what it
18 would have cost in 1988, in 1988 dollars. That is what we are
19 trying to find out. So we -- that 368,815 reduces to 322,325 in
20 1988.

21 And then the next column is the weighted average cost of
22 capital in 1988 of 6.8 percent, .068. We multiply those two
23 numbers and come up with an economic benefit before tax effects
24 in 1988. I may pause for a second here. This number, this

1 calculation is very similar to the number calculations that the
2 Federal Energy Regulatory Commission conducts. Maybe we --
3 perhaps we will go over that later.

4 Then the next -- let's see. The next five calculations,
5 essentially do the calculation in the manner that Mr. Styzens
6 did, calculating the benefit due to depreciation. And the last
7 column simply reflects net benefit due to capital costs. That is
8 a subtraction of 22,037, which is the economic benefit before tax
9 effects minus the benefit due to the depreciation, for a net
10 benefit fit of \$6,601.00.

11 Q. And is it fair to say that for each year you did a
12 similar calculation?

13 A. Yes.

14 Q. What is the number on the right-hand side under net
15 benefit due to capital costs?

16 A. Okay. This would have been the benefit -- the economic
17 benefit due to capital costs assuming the noncompliance began as
18 of generally 01-88 and ended December 31st of 1998. The latest
19 calculations submitted by the State, Mr. Styzen actually takes it
20 through I believe August of -- or really the end of 1999,
21 depending on what sheets you look at. So it is a little
22 different than that.

23 Q. We are going to talk about that in just a second. But
24 let me ask you why did you choose the beginning dates that you

1 chose for this chart?

2 A. Well, I was merely trying to duplicate what Mr. Styzen
3 had actually done in terms of the calculations, and the previous
4 version did not take into account 1999, and that basically was
5 the reason.

6 Q. When you say "previous version" you mean the previous
7 version that you had been supplied of Mr. Styzens' work?

8 A. Yes, that is right.

9 Q. So you picked the same dates that he had chosen in that
10 earlier version?

11 A. I am sorry? Well, my purpose was really to find out
12 what the approximate difference is. I was not paying very close
13 attention to the actual dates of compliance or noncompliance.

14 Q. Do you have an understanding today, as you sit here,
15 what the actual dates of compliance and noncompliance are?

16 MR. LAYMAN: Objection. Lack of foundation.

17 HEARING OFFICER KNITTLE: Overruled.

18 THE WITNESS: I believe in the traditional sense
19 noncompliance begins when you are actually supposed to comply,
20 when the investment is supposed to be made at the plant. And
21 then you also take it -- to be consistent, you take it to the
22 time that the investment is also made -- I am sorry. The first
23 part is when the investment should have been made, and when the
24 investment should be -- when it was actually made.

1 The investment has not actually been made yet, so we are
2 really dealing with hypothetical numbers here. The investment,
3 when should it have been made or when the engines were actually
4 installed at the plant, and I don't have the exact date of when
5 that was done.

6 Q. (By Mr. Boyd) Okay. Thank you. Can you explain what
7 the number at the bottom of that column, net benefit due to
8 capital cost is?

9 A. That number is \$150,785.00.

10 Q. How did you determine that number?

11 A. I simply added the numbers in the last column of that
12 table.

13 Q. Let me direct your attention to the next page, the third
14 page of Panhandle Exhibit Number 23, marked benefit due to
15 avoided operating costs. What is that?

16 A. That is exactly what the title says, the benefit due to
17 the operating costs that Panhandle should have incurred but
18 didn't. Had it installed the pollution control -- the pollution
19 controls in 1988 or 1987, then it would have incurred those
20 costs.

21 Q. Directing your attention to the bottom of the column
22 marked operating costs in the line December 1989, what is that
23 number?

24 A. The number is \$304 -

1 Q. No. I am sorry. You are looking in the wrong place.
2 Under the column operating costs, under the row December of 1999,
3 what is that number?
4 A. That number is \$29,806.
5 Q. Where did that come from?
6 A. That comes from my calculations of the avoided capital
7 costs.
8 Q. Okay. Did you use that number, avoided capital costs,
9 to do the calculations that you did on this sheet?
10 A. Yes.
11 Q. Could you walk through one line for us and tell us how
12 you did that?
13 A. Okay. Let me take for 1987. I should say first that
14 these -- that this table should have been consistent with the
15 table before. I made my mistake here. My calculation in this
16 table begins in 1987, and in order to be consistent with the
17 previous table they should really begin in 1988.
18 Q. Does that make a difference?
19 A. That would take away the first number on the very
20 right-hand side, the \$33,110. I should also say, just for one
21 second, if I may clarify, if we include that number still, the
22 net economic benefit, and make all of these calculations
23 consistent with Mr. Styzens' calculations of February of 1988
24 through August of 1999, then the difference in my net result

1 would be \$1,000.00. I did them this morning just so I could find
2 out.

3 Q. All right.

4 A. But let me just go through the first row here.

5 Q. Okay. Thank you.

6 A. The operating cost here --

7 Q. I am sorry. Let's go back just to clarify that. When
8 you say the difference would be \$1,000.00, you mean the
9 difference at the bottom of the column marked economic benefit
10 would be plus or minus the \$304,000 number by \$1,000.00?

11 A. Yes.

12 Q. Okay. Go ahead.

13 A. Operating costs in the year 2000 dollars was 29,806. In
14 1987 dollars, they are \$25,083.00. You multiply by the tax rate,
15 which is 39 percent during that year, and the tax benefit then is
16 9,782. So operating costs after taxes in the next column is
17 15,301. And the next column simply lists the weighted average
18 cost of capital that we calculated, and the economic benefit in
19 year 2000 dollars or in 1999 dollars is 33,110.

20 Q. Again, the number at the bottom of that page, how did
21 you determine that, the benefit due to operating costs?

22 A. I just simply added all of the numbers in that last
23 column.

24 Q. I am, unfortunately, going to take have to take you back

1 for a second. I want to first refer you to People's Exhibit
2 Numbers 21, 22, and 23.

3 A. Okay.

4 Q. Do you see that?

5 A. Yes.

6 Q. Did Mr. Styzens use the weighted average cost of capital
7 to determine economic benefit on these three sheets?

8 A. No.

9 Q. What did he use?

10 A. He used the bank prime loan rate.

11 Q. I think you said earlier one of your criticisms was how
12 he used the bank prime loan rate?

13 A. Yes, it should be an after-tax number. In a very simple
14 sense, if we can go back to People's Exhibit Number 7, we can
15 make -- in order to do these calculations, the cost of equity
16 would be zero.

17 Q. If you could let me go back, the People's Exhibit Number
18 7 you are looking at is the weighted average cost of capital
19 worksheet that Mr. Nosari put together?

20 A. Yes.

21 Q. Okay.

22 A. In this exhibit I would make everything zero except for
23 the cost of debt on -- well, he calculates it on a different
24 sheet, the cost of debt on line 26 here, which is transferred

1 from People's Exhibit Number 27 and --

2 Q. Line 19?

3 A. I would take line -- well, Mr. Styzens' numbers should
4 have been put in line 17, and then we would have calculated in
5 line 19 the after-tax cost of debt. Then those numbers would
6 have been carried through, and we would have done the
7 calculations.

8 Q. What difference would that have made in the overall
9 calculation of economic benefit?

10 A. I did a quick calculation this morning. I believe the
11 net difference, if you add the capital costs, the economic
12 benefit due to capital investment --

13 Q. On People's Exhibit Number 21?

14 A. Yes, that and in People's Exhibit Number 22. If you add
15 those two numbers, the net difference would be \$175,000.00.

16 Q. All right. You are confusing me now for a second.

17 A. Okay. If I do this calculation with after-tax cost of
18 debt, the same calculations, my numbers obviously would be
19 different here. And the difference between the sum of the
20 numbers that I would calculate in -- would be \$175,000.00 lower
21 than the numbers in People's Exhibit Number 21, which is 246,027
22 and added to that the number from People's Exhibit Number 22, and
23 that number is 336,534.

24 Q. So just to be clear, if you add the 246,027 from

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1 People's Exhibit Number 21 and the 336,534 from People's Exhibit
2 Number 22, if you calculate using the prime rate after-tax --
3 taking into account after-tax effects, the number would be
4 \$175,000.00 less?

5 A. Yes.

6 Q. So this -- is it fair to say that the manner in which
7 the economic benefit was calculated using sheets 21 -- People's
8 Exhibit Numbers 21 and 22 overstate the economic benefit by
9 \$175,000.00?

10 A. That's correct.

11 Q. Okay. Let me turn your attention to -- well, let me
12 keep you on Exhibits 21, 22 and 23 for a second. I think you
13 said earlier you had an issue with the manner in which the
14 partial year numbers were chosen?

15 A. Yes.

16 Q. Could you explain what you mean by that in relation to
17 Exhibits 21, 22 and 23, please?

18 A. I can use Exhibit Number 21, actually.

19 Q. Okay.

20 A. If you go to line 13, if I multiply 368,815 in column D
21 with the number in the next line, in the column E, which is 8.5
22 percent, I should get an economic benefit before tax of 31,349.
23 That number reflects the entire year number. It should be
24 reduced by multiplying by 8 over 12. Eight months of August -- I

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1 mean, eight months during the year until August, divided by 12
2 months in the year. So it is -- the calculations through the
3 last number under column L should be reduced in the same manner,
4 so about 67 percent of 27 -- 27,772.

5 Q. So just to be clear, on People's Exhibit Number 21, by
6 not calculating the number based on a partial year, how much more
7 is the amount in line 13L?

8 A. I can do a quick calculation in my head here. About
9 \$9,000.00.

10 Q. Okay. It looks like at the line two there is also a
11 partial year calculation. Do you see that?

12 A. Yes. Line two, depending on -- well, I think that last
13 number likewise should be multiplied by 10 over 12.

14 Q. Okay. So what would the net effect of those two changes
15 have on the initial investment economic benefit number at the
16 bottom, of 248,027?

17 A. It would reduce it by about \$10,000.00.

18 Q. Okay. Is it fair to say that the same mistake was made
19 on People's Exhibit Number 22?

20 A. Yes, I believe so.

21 Q. Would that have an affect on the total benefit
22 compounded at prime rate on the bottom of 336,534?

23 A. Yes.

24 Q. Do you know what affect it would have on that number,

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1 just generally?

2 A. It depends on how you calculate the number but, anyway,
3 it is going to be about \$19,000.00.

4 Q. Sir, if I could direct your attention to People's
5 Exhibit Numbers 18 and 19. Are there a partial year calculation
6 on these sheets as well?

7 A. They should have made them, but I don't think Mr.
8 Styzens did.

9 Q. Do you have the exhibit in front of you?

10 A. I am sorry?

11 Q. Do you have the exhibits in front of you?

12 A. I am going to them. Exhibits 18 and 19?

13 Q. Yes.

14 A. Yes.

15 Q. If I could direct your attention to line two of People's
16 Exhibit Number 18.

17 A. Yes.

18 Q. Is that --

19 A. It should be multiplied by 10 over 12, the last number
20 in line two of column L.

21 Q. What about the number on line 13 of column L?

22 A. That should be multiplied by 8 over 12.

23 Q. So is it fair to say if you do that the amount of the
24 economic benefit due to the initial investment would be reduced?

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1 A. By about \$10,000.00 or \$11,000.00.

2 Q. Okay. Could you look at People's Exhibit Number 19 for
3 a second. Could I direct your attention to line two of that. Is
4 there a partial year amount calculated there?

5 A. Yes, sir.

6 Q. Is the 42,573 on line two of column H represent the
7 number for a partial year?

8 A. Yes.

9 Q. It does? Did he calculate it using the 10 over 12?

10 A. Yes.

11 Q. What about line 13? Is that number calculated using the
12 partial year information?

13 A. That should be calculated with the partial year, but it
14 is a full year number.

15 Q. If I could direct your attention to -- well, never mind.
16 Strike that.

17 Earlier we were talking about the issue with People's
18 Exhibit Number 18 and 19 regarding the failure to take into
19 account the tax effects using the prime rate. Do you remember
20 that discussion?

21 A. Exhibits 18 and 19?

22 Q. No, it wasn't. I am sorry. It is Exhibits 21 and 22.

23 A. Yes.

24 Q. Okay. I think you said something about that error would

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1 have led to overstating the economic benefit by about
2 \$170,000.00?

3 A. Yes, sir.

4 Q. When you used that \$170,000.00 number, did that take
5 into account also the error due to partial year?

6 A. No, it did not.

7 Q. Okay. If I could, let me direct your attention back to
8 Panhandle Exhibit Number 23. Do you have that in front of you?

9 A. Yes.

10 Q. Are you okay? Do you need a break, sir?

11 A. I am fine. Thank you.

12 Q. If you could turn to the fourth page of Panhandle
13 Exhibit Number 23.

14 A. Okay.

15 Q. What is that?

16 A. Well, this summarizes my calculation of economic benefit
17 using their methodology but with one exception. The first two
18 numbers are taken from the previous two sheets, the bottom line
19 numbers. If you notice, the economic benefit due to delayed
20 capital costs on the second page of this exhibit was 150,785.
21 That is transferred to this page. And then benefit due to
22 avoided operating costs of 334 --

23 Q. Isn't that 304,000?

24 A. I am sorry. 304,119.

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1 Q. Okay.

2 A. It is also transferred to this fourth page. And then I
3 have calculated the loss due to extra capital costs incurred by
4 Panhandle of \$420,555.00, for the net economic benefit of 34,349.

5 Q. What is the loss due to extra capital costs. What does
6 that mean?

7 A. Well, if Panhandle had complied in 1988, it would have
8 spent \$368,815. I believe that's the number. But if -- not if
9 it complies. It will comply hopefully sometime soon and install
10 the technology. If it installs the same technology today it
11 would spend an extra \$575,133.00.

12 Q. Sir, let me refer you to the next page here.

13 A. Uh-huh.

14 Q. Is that where that numbers comes from, the page that
15 says economic loss due to extra costs?

16 A. Yes.

17 Q. Okay.

18 A. So in these calculations I am merely taking -- all of
19 these calculations reflect the after-tax cost of this capital
20 investment of 775,133. That is really --

21 Q. I am sorry. You switched the numbers around. Is it
22 575,133?

23 A. Yes, 575,133.

24 Q. Okay.

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1 A. Yes. That's the capital investment in the first row
2 here in the second column. So it says recurring costs, but it is
3 really capital costs. And then we find in the three columns, the
4 third, fourth, and fifth, I have the depreciation amount of each
5 year calculated. And then benefit due to depreciation by
6 applying the tax effects to that number. And then I calculate
7 the present value as of today in each one of the rows of those
8 numbers.

9 Q. Sir, let me just stop you for a second. Where does the
10 575,133 number come from?

11 A. That number comes from the eighth sheet in this exhibit.

12 Q. Is it table three, analysis of capital costs that
13 Panhandle would not have incurred if clean burn would have been
14 installed on units 1116 and 1117 in 1988?

15 A. Yes.

16 Q. Okay. Is that an analysis that you did?

17 A. Yes.

18 Q. Okay. Let's get to that in just a second. So you took
19 that 575,133 number at the bottom of the page on table three; is
20 that right?

21 A. Yes.

22 Q. And that is the same number at the top of the page that

23 we are referring to, five sheets in to Exhibit Panhandle Number
24 23 marked economic loss due to extra costs?

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1 A. Uh-huh, yes.

2 Q. Okay. So what is the number at the bottom, the benefit
3 due to depreciation number?

4 A. That's 154,578.

5 Q. Okay. So what is the -- strike that. What is the
6 number 420,555?

7 A. Well, that number is the capital cost number after-tax
8 effects. And that is the number that -- that's the net after-tax
9 investment, or rather the extra cost that Panhandle would incur.

10 Q. Why is that number in parenthesis?

11 A. Because it is a loss. For purposes of the economic
12 benefit calculation, it is an extra cost so, therefore, it is put
13 in parenthesis.

14 Q. So the 420,555 number was taken from this page and moved
15 to the third page?

16 A. Yes.

17 Q. Okay.

18 A. Or the fourth page.

19 Q. Yes, the fourth page of Pan Exhibit 23.

20 A. Yes, that's right.

21 Q. Why would you -- strike that. What is -- can you

22 describe why the cost to comply -- strike that.

23 Is the 575,133 number representing the additional costs
24 over what it would cost in 1988 to comply today?

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1 A. That's right.

2 Q. Okay. Do you have an understanding of why that is so
3 much more expensive today than in 1988?

4 A. Why it is so much more expensive?

5 Q. Yes.

6 A. Back in the 1987, 1988 time frame these engines were
7 actually purchased from some other company and brought to some
8 location, I guess, and then they were dismantled completely,
9 first dismantled and then modernized or upgraded at that
10 particular time. If we have to now install this new technology,
11 and I should say that the technology that we would install today,
12 although similar to what was available back then, is much more
13 efficient and can attain much lower emission levels.

14 So we are assuming that what is available today would have
15 been installed back then and, once again, we have to take the
16 engines apart and upgrade everything. So we are essentially
17 duplicating a substantial portion of what was done back in 1988,
18 and would have never -- there would have been no need to do that
19 if this technology was installed back then.

20 Q. What is the basis of taking that extra cost into account
21 in an economic benefit calculation?

22 A. Well, actually, what I would like to do is use an
23 example from my paper, if I may.

24 Q. What paper are you --

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1 A. The paper on the -- the second paper in my resume, "Why
2 Is the Economic Benefit of Noncompliance Negative in So Many
3 Cases."

4 (Whereupon a document was duly marked for purposes of
5 identification as Panhandle Exhibit 24 as of this date.)

6 Q. (By Mr. Boyd) All right. Let me hand you what has been
7 marked as Panhandle Exhibit Number 24. Can you identify that
8 document for us?

9 A. This is a paper that I published in 1998 in The Bureau
10 of National Affairs and the Environmental Law Reporter.

11 Q. That was before you became involved in this case?

12 A. Yes, much before that.

13 Q. You discuss the retrofit issue that we were just talking
14 about in this article?

15 A. Yes.

16 Q. Can you describe the example that you were talking about
17 in this article?

18 A. What I would like to do is -- sometimes what happens is
19 that the discussion of economic benefit is made complex by
20 discussing net present value and so I would like to give a very

21 simple example from page two of my article. It talks about the
22 general description of the retrofit problem. And really it
23 discusses sort of a real life problem. And the purpose of this
24 paper was really to show these retrofit kind of situations that

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1 happen in real life and then show how the calculation of economic
2 benefit would be affected. So that was one objective.

3 The second objective was to -- which comes up in the last
4 few pages of article, which talks about how government agencies
5 react to the numbers that are presented to them. And by using
6 this particular example, a very simple example, I show how the
7 State is looking at the case and how it should be looking at the
8 case. This case refers to -- in that one paragraph here, it
9 refers to a teenager buying a car.

10 Q. Sir, could you -- I am sorry. Could you point to the
11 paragraph you are referring to again?

12 A. This is on page two of -- actually, it is page number
13 2705 in that article.

14 Q. The first column?

15 A. Page two, the first column. It says general description
16 of the retrofit problem.

17 Q. Okay. Thank you.

18 A. Short of reading this, but I would like to just -- a
19 teenager goes to buy a car from the car dealer. He can have the
20 car immediately and have a factory installed radio for \$100.00.

21 But if he had the money at that particular time he would spend --
22 he would buy a radio of his own choice. He would have to spend
23 \$300.00 for the radio and an additional \$75.00 for installation.
24 But at that particular time, the teenager didn't have the \$500.00

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1 available.

2 A few months later, the \$500.00 were available to him.
3 Then knowing -- being a teenager, he immediately takes his money
4 and goes to the -- he goes to a shop, basically, that installs
5 these radios and pays \$300.00 for the radio, and now he has to
6 pay for the removal of the old radio from the car and the
7 installation of the new one and spends his entire \$500.00.

8 So, in other words, he nearly spent about \$600.00 on
9 getting the radio in his car, whereas if he had done it when he
10 first bought the car he could have done it for \$375.00, which
11 means that he lost \$225.00 in the process just because he
12 couldn't do it back then.

13 Q. Can you explain how that has application in this
14 scenario, in this case?

15 A. Now, what the State is saying in this case is that we
16 will take what it would have cost him back then, which is
17 \$375.00, but even though he spends \$100.00, so we will take
18 \$275.00 as a capital investment and calculate the economic
19 benefit. Of course, that benefit is going to be positive, but we

20 do know that he spent \$225.00 extra in this whole process and he
21 lost money. That sort of, in essence, is the case. And what I
22 have done is taken this extra money that he spent into account in
23 calculating the economic benefit.

24 Q. Again, in this particular case?

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1 A. In this particular case, the company spent or is going
2 to spend \$775,000.00, approximately, more than it would have
3 spent in 1987.

4 Q. I am sorry. You said 775. But is the number 575,133?

5 A. Yes. I am sorry. It is 575,133.

6 HEARING OFFICER KNITTLE: Excuse me, Mr. Boyd -- let's go
7 off the record for a second.

8 (Discussion off the record.)

9 HEARING OFFICER KNITTLE: All right. Let's go back on the
10 record.

11 Q. (By Mr. Boyd) Just to turn your attention again to page
12 four of Panhandle Exhibit Number 23.

13 A. Okay.

14 Q. Do you see that?

15 A. Okay.

16 Q. Do you mind walking through the numbers on this page
17 just like you walked through the numbers in the example in your
18 article, which is Panhandle Exhibit Number 24?

19 A. Well, these are -- of course, the numbers take into

20 account net present value, where the other example is much more
21 straightforward.

22 The benefit due to delayed capital costs, which would be
23 sort of more equal to the \$375.00 that the kid didn't spend, is
24 150,785. And we also take into account the benefit due to

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1 avoided operating costs, and that is 304,119. And then I have
2 losses due to extra capital costs, which is extra money that the
3 kid ended up spending, \$225.00. And over here, the net cost is
4 420,555 for a net economic benefit of 34,349.

5 Q. So taking into account the extra capital costs incurred,
6 had a substantial impact on the economic benefit number?

7 A. Oh, absolutely.

8 Q. Besides the article you have written, is there any other
9 support that you are aware of which supports the manner in which
10 you calculated the economic benefit on this page?

11 A. As we discussed before, this case is also very similar
12 to what the EPA now reflects in the BEN Model. It allows for a
13 variety of reasons. The capital costs at the date of
14 noncompliance to be different than the capital costs as of the
15 date of compliance.

16 My support would be that in this particular case we could
17 actually plug in the two numbers and come up with very similar
18 results, and the two numbers being 368,815 as of the date of

19 noncompliance. And if I may go to table three of my -- of
20 Panhandle Exhibit Number 23.

21 Q. And table three is the analysis of capital costs that
22 Panhandle would not have incurred if clean burn had been
23 installed on engines 1116 and 1117 in 1988?

24 A. Yes. If you go to that page at the bottom it says

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1 total, which is 943,948. So if you plug that number into the BEN
2 Model, and, of course, the outbreking cost numbers and so forth,
3 we will come up with a result that is going to be very similar to
4 what we have calculated here.

5 Q. When you say here, you are talking about page four?

6 A. Yes, page four.

7 Q. The 34,000 number?

8 A. Yes, the 34,349.

9 (Whereupon a document was duly marked for purposes of
10 identification as Panhandle Exhibit 25 as of this date.)

11 Q. (By Mr. Boyd) Let me show you what we have marked as
12 Panhandle Exhibit Number 25. Can you identify that for us?

13 A. It is the BEN User's Manual. It is several pages from
14 it.

15 Q. What is the date of the BEN User's Manual?

16 A. It is April of 1999.

17 Q. If the record could reflect -- could you just describe
18 what is here?

19 A. Well, these pages --

20 Q. I am sorry. Let me be more specific. Is it pages 3-18
21 through 3-25 of the April of 1999 version of the BEN User's
22 Manual?

23 A. Yes.

24 Q. Okay. Why are these pages relevant to this discussion?

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1 A. Well, this particular portion of the BEN Manual now
2 discusses how the cost numbers are different. The date of
3 compliance and noncompliance should be taken into account in the
4 BEN Model. And I should say that this BEN Model is really
5 designed for the enforcement people in the regions as well as at
6 the State level. So these screens are designed for them to put
7 in the numbers. And this particular version of the model runs on
8 PCs and the Windows program.

9 Q. Okay.

10 A. If I go to page 319, it talks about when the
11 compliance -- basically what we have to look at is basically the
12 first two columns here.

13 Q. Can I direct your attention to page 322?

14 A. Okay.

15 Q. Can you describe what they mean when it says you have
16 separate cost estimates for both noncompliance and compliance
17 date?

18 A. On 3-22.
19 Q. Yes, 3-22?
20 A. Well, in this particular --
21 Q. Sir, I am talking about the text at the top of the page.
22 It says number two. Do you see that?
23 A. Oh, yes, I see. Okay.
24 Q. You have separate cost estimates for both the

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1 noncompliance and compliance date. Do you see that?
2 A. Yes.
3 Q. What is that describing? Do you know?
4 A. This actually shows -- in the first part here they talk
5 about when these two estimates can be different. And in this
6 particular case, let's say there is a technological change
7 whereby if a company had complied earlier they would have
8 basically installed a more inefficient technology or technology
9 that would cost more. And then if the person -- if the company
10 waits for compliance and ends up spending less money later on.
11 So we need to take into account the differences between those two
12 costs. So this example actually helps them do that.
13 Now, the other part would be a much more gross violation
14 where the company simply avoids complying with the law totally.
15 For example, it has a facility and it doesn't comply and then at
16 some point in the future it just simply abandons it. So how do
17 you take that into account. This part of the model helps you

18 take those two situations into account.

19 Q. And how does that relate to this particular case?

20 A. Well, we are representing a different situation or a
21 different scenario here. What we would do in this case is the on
22 time compliance costs would be different than the costs in the
23 delayed case.

24 Q. So if I could refer you to Panhandle Exhibit Number 23,

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1 again, and I think it is table three. Can you describe the
2 numbers you would input into the BEN Model to -- when there is a
3 separate noncompliance date and compliance date -- well, strike
4 that. When the costs to comply are different at the
5 noncompliance date versus the compliance date?

6 A. I am sorry. Could you ask the question again?

7 Q. Sure. If you turn to table three?

8 A. Okay.

9 Q. And actually tell us which numbers -- well, let's just
10 take it one piece at a time. If you look at the table three,
11 what number would you use from table three in Panhandle Exhibit
12 Number 23 as the cost of compliance at the noncompliance date?

13 A. The noncompliance date is sometime in 1988 or 1987.
14 That number would be 368,815.

15 Q. What number or -- is the number regarding the cost of
16 compliance at the compliance date listed on table three?

17 A. Yes.
18 Q. What is that number?
19 A. That number would be -- that number is actually 943,948.
20 Q. All right. What is the 575,133 number, then?
21 A. That simply is the subtraction between those two
22 numbers.
23 Q. So 943,948 minus 368,815 is 575,133?
24 A. Yes, that is right.

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1 MR. BOYD: Okay. This would be a good stopping place for
2 us.
3 HEARING OFFICER KNITTLE: Okay. Let's go off the record a
4 second.
5 (Discussion off the record.)
6 HEARING OFFICER KNITTLE: All right. We will take a lunch
7 break.
8 (Whereupon a lunch recess was taken from approximately
9 12:10 to 1:25 p.m.)
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1 A F T E R N O O N S E S S I O N

2 (September 22; 2000; 1:25 p.m.)

3 HEARING OFFICER KNITTLE: We are back on the record after a
4 lunch break.

5 Mr. Singh, let me remind you that you are still under oath.

6 THE WITNESS: Yes.

7 HEARING OFFICER KNITTLE: Mr. Boyd is continuing with his
8 direct examination of this witness.

9 Q. (By Mr. Boyd) Let me refer you back to Panhandle Exhibit
10 Number 23, if I could.

11 A. Okay.

12 Q. Let me refer you to the seventh page of Panhandle
13 Exhibit Number 23. It is at the top marked table two, expected
14 capital costs for installing clean burn technology on units 1116
15 and 1117. Could you describe this page? What is this?

16 A. It reflects the costs that Panhandle would expect to
17 incur to install the clean burn technology.

18 Q. This is --

19 A. It is in 1997 dollars.

20 Q. Is this page something that you prepared?

21 A. Yes.

22 Q. Can you describe the methodology you used to prepare
23 this table?

24 A. Well, the source of this information came from -- there

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1 are various sources for this information. The first was what
2 Cooper gave. I don't know their full name. It is the
3 engineering firm that is going to modify the engines. This is
4 their estimate that they were asked to provide to Panhandle in, I
5 believe, 1995 or something, or maybe later on 1996. In 1997
6 dollars the cost was \$648,000.00 to provide a clean burn kit.
7 And it included -- if I could just go down briefly the list of
8 items, the items that are new and are required by clean burn, are
9 jet cells and the pilot fuel system. Those were not installed in
10 1987, but are going to be new.

11 Items that were modified in 1987, and they include power
12 cylinder head, turbocharger, turbocharger lube oil piping,
13 intercoolers, spark plugs, some various controls, coolant pump,
14 and, of course, new engineering has to be done again.

15 Q. Are there conversion gaskets listed there, too?

16 A. I believe it is there, but it would be included in other
17 items here.

18 Q. I see.

19 A. Then Cooper will also charge for installing the engines,
20 and their estimate is 141,160. It was also their estimate. Some
21 of the labor will be supplied by Panhandle. This is to remove
22 the cylinder heads and turbochargers from the two engines. And
23 it is estimated that it will cost about 4,685. There will be a
24 third-party inspector that will come in and look at their entire

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1 installation, and it is Panhandle's estimate in 1997 that it will
2 cost about \$20,000.00. And then there will be a series of
3 miscellaneous costs amounting to about \$50,000.00.

4 There were two additional items that were -- are going to
5 be changed at the same time as clean burn technology is
6 installed. One is a new ignition system and the second is the
7 intake manifold. These two items are really not necessary as far
8 as installation of clean burn technology is concerned. So their
9 cost, amounting to about 221,000 or 222,0000 is not included on
10 the next table.

11 Q. Okay. On this table for a second what was the source of
12 the information relating to items three through seven on this
13 table?

14 A. Well, all of these items came from either Cooper as part

15 of their estimate or from Panhandle.

16 Q. What does the right-hand column signify, the
17 modification required for implementing clean burn technology?

18 A. Yes, the very last -- the right-hand column does reflect
19 that. It shows which things are new and which things are not
20 new, and what is going to be done and basically what is or is not
21 going to be done, as well.

22 Q. Well, if there is a no next to an item in that column,
23 what does it mean?

24 A. It means that it is not really required for implementing

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1 clean burn technology, and those are the only last two items.

2 Q. If you could, turn to table three for a second and tell
3 us what that is?

4 A. Well, I took the costs from table two and inflated them
5 to calculate the costs in this table, so that all of the numbers
6 were in year 2000 dollars. But then we also -- if I may,
7 additional costs that Panhandle would have -- I mean, this table
8 includes two parts really. One is it provides the current cost
9 of conversion to clean burn and these are the numbers that came
10 from the previous page excluding the last two items and reflected
11 in year 2000 dollars, and they total about -- well, not about.
12 They total 943,948.

13 Q. So how does the 943,948 on table three compare to the
14 1,086,224 number on table two?

15 A. Okay. If you take 1,086,224 and subtract from it the
16 last two items, 208,652 and 13,727, and I would think that is
17 approximately 862,000, 864,000, approximately. I inflate each
18 one of those numbers to come up with -- I believe the inflation
19 rate is about three percent. It is three percent. Inflate them
20 at the three percent rate from 1997 to 2000, and that 864 number
21 becomes 943,948.

22 Q. What does the 943,948 represent?

23 A. It represents the current cost of conversion to clean
24 burn.

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1 Q. Now, if I take you to -- okay. Fine. What does the top
2 half of this page, table three, represent?

3 A. The top half is concerned with -- we went basically item
4 by item to see what is being -- what was modified back then and
5 what is modified today. Let's take in table two, under item 1B,
6 and that is power cylinder head. And in the first line of table
7 three that is power cylinder head costing 110,181. On the third
8 column here under comments it tells you exactly how we calculated
9 those costs. In 1988 Panhandle installed five cylinders heads.
10 If they had installed clean burn technology, they would have been
11 required to put in 24 power cylinder heads, each costing
12 \$5,000.00.

13 Q. So the number 110,181 represents what?

14 A. It represents the cost of extra cylinder heads that
15 would have been installed, including the cost of labor.

16 Q. And that is in today's dollars?

17 A. In year 2000 dollars, yes. In the same manner, we went
18 on the other items as well. Jet cell ignitors, that is
19 \$60,000.00. And 24 jet cells would have been required at about
20 \$2,500.00 each. Those jet cells would have been the new items,
21 actually, that are required.

22 Q. So is it fair to say everything at the top half of table
23 three are new items that would have been required to install
24 clean burn on engines 1116 and 1117 in 1988?

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1 A. No, no. There are only two items new at the top half,
2 the power cylinder head and the pilot fuel system. Then the
3 other items were all that were installed before, and we are just
4 trying to show the differences between what would have been
5 installed. Even the power cylinder heads, actually some of them
6 were installed, but some were not installed.

7 Q. I see.

8 A. But for most of the other ones they were installed. So
9 we are trying to show the differences between what was installed
10 and what would have been installed as number one and -- but the
11 spark plugs and the jet cells are some of the items that are
12 replaced often. And we took the repair records, the repair and
13 maintenance records from engine 1118 and 1119 to see how often

14 these were changed. And then converted those, the rate at which
15 they were changed, to these 1116 and 1117, and that is how those
16 numbers were calculated. So we went rather laboriously trying to
17 find exactly what the increase in the costs would be.

18 Q. How much time did that take?

19 A. I don't really know, but I would think that I spent a
20 little bit more than 100 hours on this issue.

21 Q. What does the 368,815 number in the middle of table
22 three represent?

23 A. It represents -- when you see what was done back then in
24 1987 and what should have been done in 1987, the difference

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1 between those two costs is 368,815.

2 Q. Okay.

3 A. So that's the money that -- that is the capital money
4 amount that Panhandle saved in 1987.

5 Q. Let me turn your attention to table number four for a
6 minute.

7 A. Uh-huh.

8 Q. Can you describe what this page is?

9 A. Yes, table four actually talks about increases in
10 operating costs due to clean burn technology. I am sorry. I am
11 confused between some of the capital costs there and operating
12 costs here. Here we are really talking about the operating

13 costs. The first item here is increase in fuel usage and we
14 actually look at the operating records and look at how much fuel
15 was used and the assumption here is that the fuel usage will
16 increase by about two percent.

17 Q. Why would that be?

18 A. Because this clean burn technology essentially uses
19 fuel, a little more fuel than the older technology. And it is
20 partly because it burns -- I believe it burns at low temperature
21 and produces a lower NOx level and ends up using more fuel. In
22 the same vein here you have some items called check valves. They
23 are replaced at a certain rate and we calculate what that rate
24 would be and then calculate the cost.

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1 Q. You calculate both the material costs and the labor
2 costs?

3 A. Yes.

4 Q. Okay.

5 A. Then spark plugs, jet cells, and then turbochargers.
6 There are five items here that would change. That's the basis
7 for the operating cost increase.

8 Q. What is the 28,518 number in the second column?

9 A. That is the material costs of these items on an annual
10 basis.

11 Q. What is the 1,287 number?

12 A. Labor costs of replacing those spark plugs and jet

13 cells, etcetera.

14 Q. What is the 29,806 number?

15 A. That is the total operating costs increase annually.

16 Q. Sir, I am going to take you back to pages two, three and
17 four of your supplement to your report, Panhandle Exhibit Number
18 23. Could you explain to us how you calculated the -- on the
19 second page, the economic benefit due to delayed capital costs,
20 what number did you use from your table two, table three, or
21 table four to calculate the benefit due to capital costs?

22 A. From table three it is the extra costs that -- I should
23 not say the extra costs. The costs that Panhandle should have
24 incurred in 1987 is 368,815. So I bring that over on page two,

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1 the economic benefit due to delayed capital costs, that table,
2 and on the last line, December of 1999, column four, 368,815.
3 That is where that number comes from.

4 Q. And if you could, on the next page, the page that is
5 marked benefit due to avoided operating costs.

6 A. Yes.

7 Q. Is there a number that you used from table four?

8 A. Yes.

9 Q. Can you explain that?

10 A. In table four the total annual operating cost increase
11 is 29,806. That number is transferred to the last line of this

12 table, which says benefit due to avoided operating costs in
13 column four.

14 Q. So where it says December of 1999?

15 A. Yes.

16 Q. Column four?

17 A. Yes, column four.

18 Q. 29,806?

19 A. Uh-huh.

20 Q. Okay. Sir, if I could direct you to the fourth page of
21 Panhandle Exhibit Number 23, the page marked summary of economic
22 benefit calculations. Where does that minus 420,555.4 number
23 come from?

24 A. That comes from the next sheet, which calculates the

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1 economic loss due to extra costs, and these extra costs are in
2 table three, at the very bottom, where it says extra cost
3 Panhandle will incur, that is, the costs that Panhandle would not
4 have incurred if it had installed clean burn technology in 1988,
5 and that is 575,133. The third item, loss due to extra capital
6 costs on page four, which is 420,555 is the after-tax value of
7 that 575,133.

8 Q. Again, on page four, the net --

9 MR. BOYD: I am sorry. Could I have his answer read back?

10 HEARING OFFICER KNITTLE: Darlene, could you read it back.

11 (Whereupon the requested portion of the record was read back

12 by the Reporter.)

13 Q. (By Mr. Boyd) Okay. If I could direct your attention
14 to, again, page four, at the bottom, it says net economic benefit
15 of 34,349. Is that just determined by summing those three
16 things?

17 A. Yes.

18 Q. Do you believe that your page four depicts the way in
19 which economic benefit should be determined in this case?

20 A. The answer is yes and no. Yes, if we essentially use
21 the methodology that the State has used and add to it the
22 retrofit or the extra cost items that I talked about.

23 However, the no part of the answer is with the fact that in
24 this particular case the pipeline industry or the transmission of

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1 gas in the pipeline industry is regulated by the Federal Energy
2 Regulatory Commission, FERC, and under that condition -- I should
3 say due to the regulation there would be no economic benefit.

4 MR. BOYD: Okay. I am going to talk about that in a
5 second.

6 First, Mr. Hearing Officer, I would like to move for the
7 admission of Exhibits 23, 24, and 25 into evidence.

8 HEARING OFFICER KNITTLE: Okay. We will take them one at a
9 time. Mr. Layman, Number 23, supplement to report.

10 MR. LAYMAN: Yes. I have no objection to Exhibit Number

11 23.

12 HEARING OFFICER KNITTLE: All right. That is admitted.

13 (Whereupon said document was duly admitted into evidence as
14 Panhandle Exhibit 23 as of this date.)

15 HEARING OFFICER KNITTLE: Exhibit Number 24 is a document
16 entitled -- an article entitled Analysis and Perspective.

17 MR. LAYMAN: No objection to Panhandle Exhibit Number 24.

18 HEARING OFFICER KNITTLE: That is admitted.

19 (Whereupon said document was duly admitted into evidence as
20 Panhandle Exhibit 24 as of this date.)

21 HEARING OFFICER KNITTLE: And Exhibit Number 25 is portions
22 of the BEN User's Manual.

23 MR. LAYMAN: I am afraid I do have to object to the
24 introduction of the BEN User's Manual. The copy of the manual

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1 that has been presented and marked as Panhandle Exhibit Number 25
2 is not a current version, at least from my understanding of the
3 BEN User's Manual published by the United States Environmental
4 Protection Agency. I believe the one that Panhandle is referring
5 to is an April of 1999 version. The more current version is the
6 September of 1999, and there are, based on a cursory review of
7 our document, some substantial changes in the document.

8 I will not say that with respect to the particular portion
9 of the manual that the witness has relied upon is substantially
10 different. In fact, the paragraphs that were read from I think

11 by the witness appeared to be unchanged. But the presentation of
12 the paragraphs is different. There appear to be at least one or
13 two paragraphs that have dropped out from the latest manual that
14 the U.S. EPA has published.

15 So to the extent that it is not an accurate depiction of
16 the U.S. EPA's current manual, I don't know what else we can do
17 but object to the introduction of in its current form.

18 HEARING OFFICER KNITTLE: Mr. Boyd?

19 MR. BOYD: Well, Mr. Layman admitted that the portions that
20 this witness is relying on have not changed. The portions that
21 are important to his testimony have not changed. We have not
22 sought to introduce the entire BEN User's Manual. The only
23 portions that are appropriate and relevant to this case are the
24 discussions regarding estimating economic benefit when the costs

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1 of compliance are different in the noncompliance and compliance
2 date. Those have not changed. This is simply describing that
3 process, and it is relevant to his discussion and should be
4 admitted.

5 HEARING OFFICER KNITTLE: I am going to deny the exhibit
6 based on Mr. Layman's objections.

7 MR. BOYD: I am sorry. Could you explain the basis of your
8 not --

9 HEARING OFFICER KNITTLE: I am denying it because, number

10 one, I don't think we ever laid any foundation for a portion of
11 the manual. That was not objected to. That is not part of the
12 issue. Why I am granting it is aside from Mr. Layman's
13 representation that the BEN User's Manual is the same as this
14 form of the user manual, the current user manual, all due
15 deference to Mr. Layman, I am not willing to accept this exhibit
16 based on his representation because he did not say that they were
17 exactly the same. He said they appeared to be the same upon a
18 cursory reading. I don't think that is sufficient credibility
19 for this and I am going to --

20 MR. BOYD: May I lay additional foundation, then, Your
21 Honor?

22 HEARING OFFICER KNITTLE: You can lay some additional
23 foundation, but I don't know that it is going to change this
24 second part of ruling that I was addressing. He didn't object to

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1 the foundation. I just didn't think that appropriate foundation
2 had been laid. Part of the objection that I am sustaining is the
3 fact that I don't think it is the current version.

4 MR. BOYD: We are not introducing it as the current version
5 of the BEN Model. That's not the point. We are introducing it
6 to show the basis of Mr. Singh's testimony here.

7 HEARING OFFICER KNITTLE: Mr. Layman, are you willing to
8 stipulate to that representation?

9 MR. LAYMAN: I don't believe that we are. I would suggest

10 that to the extent that we are trying to introduce portions of
11 the BEN Manual it is not supportive of the witness' testimony of
12 the nature of the economic benefit that he arrived at in this
13 case. So essentially we are -- I would hope that it would not be
14 Panhandle's intent to put the BEN Model on trial as part of these
15 proceedings.

16 And I don't know what else to suggest other than a formal
17 offer of proof with respect to any of the foundational questions
18 that may not have been addressed in the direct testimony. But as
19 the Hearing Officer pointed out, it does not address the
20 objection that the State raised.

21 HEARING OFFICER KNITTLE: Anything further, Mr. Boyd?

22 MR. BOYD: I do. I would like to have, even after this
23 witness is finished, then, an opportunity when we come back to
24 have him come back and introduce the real BEN Manual, the most

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1 current BEN Manual. This witness, I think, through foundation
2 can lay the fact that the current version is no different than
3 this version. The reason we were using this version is because
4 it was the version we provided to the State in discovery. That's
5 the only reason.

6 So I think it is inappropriate now to move to have this out
7 of the record before the Pollution Control Board based on the
8 ground that some portions of the BEN Manual, other than the

9 portions that Mr. Singh is relying on, have changed.

10 HEARING OFFICER KNITTLE: Anything further, Mr. Layman?

11 MR. LAYMAN: I honestly can't tell you at this time whether
12 with respect to anything pertaining to discovery that Panhandle
13 provided us that exact copy or let alone any copy. That may have
14 been -- I mean, that may have happened. I don't know that
15 personally and I don't know that we are prepared to state that
16 that is the case now.

17 I have no objection to Panhandle -- since it is clear that
18 we are not going to get to the end of this case and they are not
19 going to close their case, I have no objection to them recalling
20 the witness once we reconvene at whatever appropriate time the
21 Hearing Officer deems necessary to go through and deal with this
22 particular issue.

23 HEARING OFFICER KNITTLE: That would be --

24 MR. BOYD: Well, I would like to do this. I would like to,

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1 if I may, I would like to make an offer of proof at this point in
2 time that this witness has looked at the current version, the
3 September version, and looked at this version and the portions
4 that he is referring to have not changed. I am going to move for
5 cause if we have to fly this witness back and it be proven on the
6 record that they have not changed.

7 HEARING OFFICER KNITTLE: That is perfectly within your
8 right, Mr. Boyd.

9 MR. BOYD: Thank you.

10 HEARING OFFICER KNITTLE: As to this witness, are you
11 wanting to address that issue now with this witness by asking him
12 some questions about this?

13 MR. BOYD: I would like to.

14 HEARING OFFICER KNITTLE: Mr. Layman, you understand that I
15 am willing to admit this if the State will -- for the limited
16 purpose, as we did with the large oversized exhibits, that it was
17 the basis for in this case Mr. Singh's testimony if you would so
18 stipulate. That might solve our problem. But if you don't want
19 to stipulate to that --

20 MR. LAYMAN: I am not prepared to stipulate at this time.

21 HEARING OFFICER KNITTLE: Then I will allow you to lay this
22 additional foundation. I would also -- I don't want to have to
23 fly this -- regardless of any motion that Mr. Boyd may or may not
24 file about costs, I don't want to put this witness through the

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1 difficulty of flying back.

2 This will be with the Board and I would grant you leave to
3 file the most recent version of this document at a later point in
4 time. I think that would cure a lot of our problems, too. My
5 only concern is that regardless of what this witness testified
6 to, if we don't have the most recent version of the BEN User's
7 Model before the Board it could create confusion. I don't want

8 that to happen.

9 MR. BOYD: I understand that. I would still like to ask
10 just a few questions of the witness to make the record that the
11 portions that he is relying on are the same.

12 HEARING OFFICER KNITTLE: Okay.

13 OFFER OF PROOF EXAMINATION

14 BY MR BOYD:

15 Q. (By Mr. Boyd) Mr. Singh, before we move on, would you
16 look at the Pan Exhibit Number 25 for me?

17 A. Okay.

18 Q. I think you identified this before as an April of 1999
19 version of the BEN User's Manual; is that right?

20 A. Yes.

21 Q. Where did this come from?

22 A. I believe I downloaded it from the EPA website.

23 Q. Are you aware whether this is the most recent version of
24 the BEN User's Manual?

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1 A. That is -- there is another version. I believe the
2 confusion came partly because there were two different files on
3 the EPA's website. I may have loaded this down first, used it,
4 looked at it, and then when I went back for some reason to the
5 site and downloaded and then it came back with September of 1999
6 version. And I should also say that the EPA is intending to
7 file -- to finalize this version of the BEN Model, not

8 necessarily the BEN Manual, but the BEN Model itself very soon.
9 So you may have yet another version of the BEN Manual here very
10 soon.

11 Q. Looking at pages 3-18 through 3-25, do you see that?

12 A. Yes.

13 Q. There is a discussion here about specific cost
14 estimates. Do you see that?

15 A. Yes.

16 Q. Okay. Have you reviewed the more recent September of
17 1999 version of the BEN User's Manual?

18 A. Yes, and I reviewed not only these pages but many other
19 pages, and I would say most of the rest of the BEN Manual, and
20 reasonably carefully except for maybe a couple of paragraphs
21 that -- a couple of paragraphs that really have nothing to do
22 with -- not only this portion of the calculation, but the entire
23 portions that deal with the calculations. Those have not
24 changed. And if anything, the paragraphs that were taken out

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1 were so unimportant that I paid no attention to them when I was
2 looking at them, because they didn't seem important at all.

3 MR. BOYD: Okay. That's really all I have to say. I would
4 like to renew my request to have it entered into evidence at this
5 time.

6 HEARING OFFICER KNITTLE: For what purpose?

7 MR. BOYD: Well, for the --

8 HEARING OFFICER KNITTLE: Are you just moving this document
9 as --

10 MR. BOYD: Say that again.

11 HEARING OFFICER KNITTLE: You are moving this document as
12 it is into evidence or for a limited purpose?

13 MR. BOYD: For the limited purpose that these are the pages
14 that Mr. Singh relied upon in developing his testimony.

15 HEARING OFFICER KNITTLE: Mr. Layman, any objection for
16 that limited purpose?

17 (Ms. Smetana exited the hearing room.)

18 MR. LAYMAN: I am, again, not inclined to do that at this
19 particular time. But I am open to some discussions, I think,
20 with Panhandle's Counsel during break to discuss other related
21 issues, if you will, regarding the introduction and admissibility
22 of certain documents.

23 MR. BOYD: Again, I am not sure what that has to do with
24 this particular document at this particular time.

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1 HEARING OFFICER KNITTLE: So would --

2 MR. LAYMAN: Well, my latter statement has nothing to do
3 with this particular document, but I have not --

4 HEARING OFFICER KNITTLE: Are you objecting?

5 MR. BOYD: Well, then he has not stated an objection to
6 this particular document then.

7 HEARING OFFICER KNITTLE: Well, hold on. We have to --
8 MR. LAYMAN: Well, why should I restate them?
9 HEARING OFFICER KNITTLE: I would --
10 MR. LAYMAN: They have already been stated.
11 HEARING OFFICER KNITTLE: My question to you, Mr. Layman,
12 is are you objecting to this new moving of this exhibit into
13 evidence --
14 MR. LAYMAN: Yes.
15 HEARING OFFICER KNITTLE: -- under the limited circumstance
16 that it is being offered for?
17 MR. LAYMAN: Yes, I am, on the same grounds that we just
18 previously objected to.
19 HEARING OFFICER KNITTLE: Okay. Well, my foundational
20 concerns have been cured. For the limited purpose of showing
21 what this witness relied upon, I am going to accept this and
22 admit it into evidence.
23 MR. BOYD: Thank you.
24 HEARING OFFICER KNITTLE: But only for the limited purpose

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1 as stated earlier, to show that this witness -- what this witness
2 relied upon when formulating his testimony.
3 (Whereupon said document was duly admitted into evidence as
4 Panhandle Exhibit 25 as of this date.)
5 MR. BOYD: Thank you.

6 (Whereupon a document was duly marked for purposes of
7 identification as Panhandle Exhibit 26 as of this date.)

8 Q. (By Mr. Boyd) Mr. Singh, I have handed you what has
9 been marked as Panhandle Exhibit Number 26. Can you identify
10 this for us?

11 A. It is an opinion I gave some time ago regarding the
12 economic benefit that Panhandle Eastern Pipe Line Company gained
13 due to --

14 Q. Did you -- when did you prepare this?

15 A. I am sorry. Due to alleged noncompliance.

16 Q. I am sorry for interrupting you. When did you prepare
17 it?

18 A. I believe it was around December or so, approximately
19 December of 1999. I don't have the exact date, but it was in the
20 November or December time frame.

21 Q. What information did you review about FERC regulations
22 of Panhandle in the natural gas pipeline industry in relation to
23 preparing this report?

24 A. There was a series of documents that -- well, first, I

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1 reviewed -- in my company we had a book by Justice Stephen
2 Breyer, a Justice of the U.S. Supreme Court.

3 Q. Is that referenced in your footnote two on page two?

4 A. Yes.

5 Q. Let me just note for the record that this exhibit,

6 Panhandle Exhibit Number 26, is marked Pan 1751 through 1754. I
7 am sorry. Go ahead.

8 A. Mr. Breyer was involved in the deregulation of various
9 industries in the mid 1980s or even maybe the late 1970s and he
10 wrote a book about regulation entitled Regulation and its Reform.
11 In that book he discusses the cost of service rate regulation,
12 and part of the reason that I looked at the book is not only that
13 it was readily available to me, but the fact that Mr. Breyer
14 takes great pains at criticizing different approaches that have
15 been taken, their shortcomings, and including the shortcomings
16 related to cost of capital and various ways of calculating the
17 cost of capital. So it was very useful from that perspective. I
18 also reviewed a number of FERC orders pursuant to rate filings by
19 Panhandle in the 1980s, late 1980s and early 1990s.

20 Q. Are those referenced in your report?

21 A. Yes, I believe so. Panhandle filed rate increases in
22 1987, 1988, 1991, and 1992. In fact, during this period, I
23 believe ending 1994, they were required to file rate increases
24 every three years by FERC because sort of the changes that was

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1 taking place in the industry.

2 Q. If you look at footnote five, does that list the FERC
3 opinions that you reviewed?

4 A. Yes.

5 Q. Besides the Stephen Breyer book and the FERC opinions,
6 was there any other information that you relied upon in
7 formulating the opinions expressed in your report?

8 A. Well, yes, in the sense that in the early or maybe the
9 mid 1970s I used to be interested in the regulation of the
10 trucking industry. And that is when I first came across the
11 whole idea of cost of service regulation, the -- what is the
12 other word -- the allowable and allocable costs, terms such as
13 those, terms such as public convenience and necessity. So in the
14 mid 1970s I was aware of those kinds of things. So to jump into
15 this area it was relatively easy after that. I also downloaded
16 some documents from FERC's website and reviewed them.

17 Q. Did you speak with anybody at Panhandle about the
18 regulation of Panhandle by FERC?

19 A. Yes, I had some questions. Immediately one of the first
20 questions that came up was, well, what if the rates cannot be
21 recovered or cannot be filed very quickly after the costs have
22 incurred, and how would you take that into account. So I wanted
23 to find out from Mr. Grygar. Actually, I talked with Mr. Grygar
24 a number of times about the potential delay in filing these rate

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1 cases. I also was concerned about the allocability of
2 environmental costs. I talked to him about that as well. There
3 were specific items that I wanted to ask him questions about.

4 Q. As a result of your review of this information, did you

5 develop an opinion about whether Panhandle had an economic
6 benefit as a result of the alleged noncompliance in this case?

7 A. Yes.

8 (Ms. Carter exited the hearing room.)

9 Q. What is that opinion?

10 A. The opinion is that under the circumstances facing
11 Panhandle, facing this case, as well, there would be no economic
12 benefit to Panhandle --

13 Q. Why do you say that?

14 A. -- from the alleged noncompliance. Well, the primary
15 reason is that once the costs are allowable and allocable, FERC,
16 under the rate-making proceedings, provides you with a just and
17 reasonable return, as they define them. And that -- those --
18 that calculation of just and reasonable return as well as the
19 equation that calculates what is the required revenue would be
20 for a pipeline company so that they can earn a just and
21 reasonable return are given on page two.

22 If I could just briefly describe those equations, the
23 required revenue in a given year is operating cost in that year,
24 plus the depreciation, plus taxes in the year, and plus the

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1 profit. And profit is equal to the rate of return times the
2 total historical investment minus accumulated appreciation.

3 Then the rate that -- or the prices that are for gas

4 transportation that a company can charge is equal to required
5 revenue divided by the quantity sold in that year, in a test
6 year. I should say that I would like to relate these equations
7 to actually the manner in which the State has done its
8 calculations --

9 Q. Are you looking at Panhandle Exhibit Number 23?

10 A. I can take either one of these.

11 Q. I am looking at Panhandle Exhibit Number 23. Will that
12 work?

13 A. We can take or we can take -- okay. We can take that.

14 Q. Whichever one you would like.

15 A. I was just going to take People's Exhibit Number --

16 Q. I would rather you use yours.

17 A. All right. It would be --

18 Q. Panhandle Exhibit Number 23, if you would.

19 A. If I may take for a second the first page.

20 Q. In Pan Exhibit 23?

21 A. Uh-huh, yes.

22 Q. Okay.

23 A. Or the second page entitled economic benefit due to
24 delayed capital costs. I would come back to the amount of

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1 delayed capital in 1998 is 322,325. And then we have the
2 weighted average cost of capital, which is really the rate of
3 return on the investor capital, and we have 6.8 percent. And

4 then economic benefit before tax effects is 22,037. This is
5 exactly the calculation in line two in my opinion -- or in my --

6 Q. Do you mean page two?

7 A. In page two of my opinion, which says profit in year T,
8 and T equals rate of return times total historical investment
9 minus accumulated depreciation, minus a new investment. So there
10 is no accumulated depreciation. So it is simply rate times the
11 investment. And that is what the calculation is. And then the
12 rest of the calculation has to do with the depreciation and tax
13 effects.

14 That is exactly what is done in sort of the first part, the
15 first equation there on page two of my opinion, which says
16 required revenue equals -- well, it says operating costs plus
17 depreciation, plus taxes. And so it takes into account taxes.
18 If you go to the third page of Panhandle Exhibit 23, that is
19 where we take operating costs and the associated taxes into
20 account. And that is exactly what the FERC does, and it is
21 reflected again in the first equation on page two of my opinion.
22 So these two calculations are exactly alike.

23 Q. What does that matter that they are exactly alike?

24 A. Well, that means that if Panhandle had actually invested

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1 this money, they would have also gotten all of that money back
2 due to the rate calculation, because this is exactly what the

3 FERC would have allowed.

4 Q. I am sorry. When you say invested, what do you mean?

5 A. Well, if they had invested -- if they had installed the
6 clean burn technology and invested associated -- or incurred
7 associated capital and operating costs.

8 Q. So we are talking about the 368,815 number?

9 A. Yes, that.

10 Q. And the operating costs over time?

11 A. Yes.

12 Q. If they had installed clean burn in 1988, what does that
13 mean in terms of these calculations?

14 A. If they had invested that money that means that the rate
15 would have increased by that amount, the rate that Panhandle
16 could charge or the rate that FERC would have allowed would have
17 been a little higher than what was there before. So that means
18 that they would have gotten back all of the return on the money
19 and there would have been no -- on the one hand it is a situation
20 whereby Panhandle could borrow money from the bank on the one
21 hand, pay the interest on the one hand, but somebody else on this
22 side also gives them back all of the money that they actually pay
23 the bank. The net effect would be a zero benefit in the process.
24 I should also say that these equations are not exactly identical

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1 to what the State has done, but it is very similar. They are
2 very, very close, and both methodologies are very reasonable.

3 Q. Is this methodology on page two -- well, strike that.
4 Is the equation you set out on page two an equation that FERC
5 uses in developing the rates?

6 A. This is the generalized -- a cost of service set of
7 equations, and that is what FERC generally uses.

8 Q. You had mentioned earlier that there were some issues
9 that you had in determining whether under the facts of this
10 particular case Panhandle had an economic benefit. What were the
11 issues that you had concerns about?

12 (Ms. Carter entered the hearing room.)

13 A. One was the delay issue, whether there would have been a
14 delay in the filing of the rate case and then, of course, getting
15 the rates approved.

16 Q. Why is that an issue?

17 A. Well, let's say that if they couldn't file the rate
18 increase for a while that means they would have had to pay out of
19 their pocket for some time, at least everything else being
20 constant, that is what they would have done. But in this case
21 Panhandle did file a rate increase in 1987 and in 1988. And I
22 believe in 1988 they included all of the costs from the capital
23 expenditures that were indeed made at Glenarm. So there was very
24 little delay, if anything. The other aspect is that once the

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1 rate case is filed, the rates become effective five months after

2 filing. So if there was any small delay, it would have had no
3 material effect on the benefit calculations.

4 Q. Besides the delay issue, were there other issues that
5 you explored in relation to your opinion that Panhandle had no
6 economic benefit as a result of any alleged noncompliance?

7 A. There was at least one other issue and that had to do
8 with the fact that given the changes that were taking place in
9 the industry that all the significant changes that took place in
10 the industry, that the risks increased -- the risks of investment
11 really increased substantially. And what I found by reviewing
12 the FERC opinions is that FERC explicitly took those risks into
13 account. They have a different way of calculating the weighted
14 average cost of capital, but there was a considerable discussion
15 about how much of the risks, not only to Panhandle but to all of
16 the pipeline companies. And they explicitly reflected that in
17 the rate of return that was allowed.

18 Q. Why would the risks associated with the pipelines even
19 be an issue in your determinations?

20 A. It would only be an issue because it increases the cost
21 of capital during that period. So that is an issue very much.

22 MR. BOYD: Okay. Just one minute. I might be finished.

23 HEARING OFFICER KNITTLE: Okay. Let's go off.

24 (Discussion off the record.)

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1 HEARING OFFICER KNITTLE: Okay. Back on the record.

2 Q. (By Mr. Boyd) Mr. Singh, if I could, I want to refer you
3 to the first page of Panhandle Exhibit 26.

4 A. Okay.

5 Q. There was a footnote one. Do you see that?

6 A. Uh-huh.

7 Q. What did you mean by footnote one?

8 A. At the time that I prepared this report, the State had
9 supplied a printout from a BEN Model run, actually and older
10 version of the BEN Model. And I was aware at that point that
11 Panhandle would have had to retrofit the clean burn technology,
12 and that if you use sort of the standard model run that it would
13 not give the accurate estimate of the coming benefit. That is
14 essentially, I believe, what I had reflected in the footnote.

15 Q. Is it fair to say that based on your analysis relating
16 to Panhandle's regulation by FERC as well as using a traditional
17 BEN type analysis Panhandle would have no economic benefit as a
18 result of noncompliance?

19 A. Yes. No economic benefit or if anything it is very,
20 very small.

21 MR. BOYD: Okay. That's all have.

22 HEARING OFFICER KNITTLE: Okay. Let's take a recess.

23 (Whereupon a short recess was taken.)

24 HEARING OFFICER KNITTLE: All right. We are back on the

1 record.

2 Mr. Layman, before we get started with the
3 cross-examination, Mr. Boyd wanted to introduce Panhandle Exhibit
4 Number 26.

5 MR. LAYMAN: Okay.

6 HEARING OFFICER KNITTLE: Mr. Boyd?

7 MR. BOYD: I move for the introduction of Panhandle Exhibit
8 Number 26.

9 HEARING OFFICER KNITTLE: Mr. Layman?

10 MR. LAYMAN: No objection.

11 HEARING OFFICER KNITTLE: That is admitted.

12 (Whereupon said document was duly admitted into evidence as
13 Panhandle Exhibit 26 as of this date.)

14 HEARING OFFICER KNITTLE: Mr. Boyd, you are done with
15 direct?

16 MR. BOYD: Yes, sir.

17 HEARING OFFICER KNITTLE: Okay. Mr. Layman,
18 cross-examination.

19 MR. LAYMAN: I have just one brief preliminary matter
20 before we start back up with the witness.

21 HEARING OFFICER KNITTLE: Okay.

22 MR. LAYMAN: I will be brief. We would like to renew and
23 state as a standing or a continuing matter the State's objection
24 to the admissibility of the BEN User's Manual, as identified in

1 Panhandle Exhibit Number 25.

2 I would like to note an additional basis for supporting the
3 State's objection that the document should be considered hearsay.
4 Panhandle has essentially attempted to introduce the document, a
5 selected portion of the document, to prove the truth of the
6 matter that is being asserted. So, for the record, I would note
7 that, for what it is worth.

8 HEARING OFFICER KNITTLE: All right. Thank you, Mr.
9 Layman.

10 Mr. Boyd, no comment, I take it?

11 MR. BOYD: No comment.

12 HEARING OFFICER KNITTLE: I do want to restate that I have
13 granted Panhandle leave to file a current version of the BEN
14 User's Manual and if necessary a complete version. It will be up
15 to you, Mr. Boyd, what you want to do in that circumstance.

16 MR. BOYD: Thank you.

17 HEARING OFFICER KNITTLE: All right. Mr. Layman, your
18 objection is noted for the record.

19 MR. LAYMAN: Thank you.

20 HEARING OFFICER KNITTLE: It is your witness.

21 MR. LAYMAN: Thank you.

22 CROSS EXAMINATION

23 BY MR. LAYMAN:

24 Q. Mr. Singh, can you tell us approximately how many

1 matters you have been retained by a company or an individual to
2 provide guidance regarding economic benefit of noncompliance?
3 You had stated earlier a reference to 35, but I wanted the record
4 to reflect whether or not that meant clients that you have dealt
5 with generally or simply matters in which you have provided
6 deposition or testimony at trial?

7 A. These are considered the number of cases in which I
8 actually calculated economic benefit. And in a few of them I may
9 have either provided testimony, court testimony, deposition
10 testimony or just simply participated in settlement negotiations.

11 Q. Okay. So that number would be more than 35; is that
12 correct?

13 A. No, no, that is 35.

14 Q. Okay.

15 A. The number of clients would be less because, for
16 example, for Bethlehem Steel alone I think there were four cases.
17 For Wurthington Steel there were three.

18 Q. Okay. Did all of those matters involve the field of
19 environmental regulations?

20 A. Yes.

21 Q. Of those cases that you worked on, have you had the
22 experience to be involved with any of your clients that are from
23 the natural gas pipeline industry?

24 A. No, other than Panhandle.

1 Q. Of course. How many of the cases that you have been
2 involved with have involved companies that are regulated by FERC,
3 apart from just the natural gas pipeline industry?

4 A. Just one. This is the first one.

5 Q. Okay.

6 A. Or certainly I should say that the cases that dealt with
7 regulations. I don't know whether some of the companies may have
8 been involved in some way in the regulatory matters, but I am not
9 aware of it.

10 Q. Okay. So you may have had a client that retained you
11 that happened to be an electrical utility or someone like that,
12 that is heavily regulated by the government; is that correct?

13 A. It may have been, but I am not really aware of that.

14 Q. Okay. Have there been any cases in which you have, in
15 providing counsel or guidance on determining economic benefit,
16 have there been any instances in which you represented state or
17 local governments?

18 A. No.

19 Q. How about the federal government?

20 A. No, no.

21 Q. Okay. Any -- have you provided any type of those
22 services to citizen groups or environmental advocacy groups?

23 A. No.

24 Q. Okay. So it is fair to say, then, you primarily

1 represent corporations or other profit-making entities in your
2 consulting work on economic benefit?

3 A. As far as the litigation service is concerned, yes.

4 Q. Okay. So it is fair to say that you are typically hired
5 by companies for the purpose of saving them money in settlement
6 negotiations or in litigation with government regulators?

7 A. I would like to think that I have reduced their penalty,
8 but I don't know whether that is why they hire me. I don't know
9 what their motivations are. But I am hired to give, I believe, a
10 true estimate of economic benefit.

11 Q. Can you tell us what kind of an hourly or project rate
12 that you charge for your services?

13 A. \$250.00 an hour.

14 Q. Is that hourly rate the same for deposition testimony?

15 A. Yes, I have maintained the same amount.

16 Q. You also get paid for travel and accommodations
17 associated with any services that you provide at trial or
18 hearings?

19 A. Yes.

20 Q. Could you dare estimate the number of hours that you
21 have spent handling or being involved with the Panhandle matter
22 in which you have provided them guidance or services with respect
23 to the economic benefit calculations?

24 A. When you say economic benefit, you mean both sets of

1 calculations, looking at your stuff and --

2 Q. As well as --

3 A. I would say 200 to 250.

4 Q. Okay. Can you tell us when you first began publishing
5 articles regarding the estimated economic benefit of
6 noncompliance?

7 A. I think my first article appeared in 1993.

8 Q. Okay. Is it cited in your resume?

9 A. Yes.

10 Q. Okay. Was that your first published article about
11 economic benefit generally?

12 A. Yes.

13 Q. Okay. Do you recall when you first began writing about
14 the impact of retrofit costs on economic benefit analysis?

15 A. I am sorry. Could you say that question again.

16 Q. When did you first begin writing about the impact of
17 retrofit situations on economic benefit calculations?

18 A. Well, there is that one article in there in 1998, but
19 the first case that came -- that arose out of an oil refinery
20 where they had actually spent \$30 million installing pollution
21 control expenditures and essentially made a mistake in either --
22 in either determining what the regulations really required them
23 to do or something else. But they made a mistake. So then they
24 had to go back and retrofit the new equipment and that was the

1 first time that I came across that question. Now since then, for
2 whatever reason, I have come across many such situations.

3 Q. Did you provide any sort of deposition or hearing
4 testimony in that case?

5 A. In that particular case, no, I only prepared a report.

6 Q. Okay. Thank you. It was after that that you wrote the
7 article in 1998 regarding the use of retrofit in --

8 A. Oh, very much so. That -- I believe my sister came here
9 from India in -- that was probably in 1993 or 1994. That's the
10 first time.

11 Q. Okay. So there were a few years that went by before you
12 actually published the article on that?

13 A. Yes.

14 Q. Okay. Thank you. In 1997, and I believe you may have
15 touched briefly on it in your earlier testimony, you published a
16 couple of articles regarding the use of an after-tax risk-free
17 rate theory in economic benefit analysis; is that right?

18 A. That's right.

19 Q. Are you aware of any other person or persons in your
20 field of expertise that have published articles wherein they
21 adopt or discuss retrofit costs in economic benefit analysis?

22 A. Whether there was somebody else that has published this?

23 Q. I will rephrase the question. Are you aware of anyone
24 else in your field of expertise that has published articles about

1 the consequences of retrofit situations?

2 A. I am not aware of it, but in most of the managerial
3 accounting textbooks what you find are examples of replacement of
4 equipment. The type of calculations that are involved are
5 generally given in those textbooks.

6 Q. Okay. Can you tell us whether you can attribute any
7 increase in your consulting work as a result of your publications
8 regarding retrofit?

9 A. I don't think so. I think most of the work has come
10 because I think innovatively about situations.

11 Q. Have you tailored any of your opinions expressed in your
12 articles to be more competitive in your business?

13 A. Have I tailored my -- what do you mean by "tailored?"

14 Q. Have you changed or modified some of your earlier
15 opinions?

16 A. Mr. Layman, you are implying that I am dishonest in some
17 way --

18 Q. Absolutely not.

19 A. -- and that is not proper.

20 Q. I think your earlier testimony did indicate that you
21 published these articles for purposes of competition, if you
22 will, with other members of your field?

23 A. I did, but it could have many meanings. All that meant
24 was that if you are my competitor and you publish one, I am going

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1 to publish another.

2 Q. Very well. In the publisher's note to your 1997
3 article, the Discount Rate and EPA Penalties: Confusion and
4 Possible Repercussions, I believe that is the one that you cited
5 to, one of the ones that you cited to in your earlier testimony,
6 the publishers noted that you found the then current BEN Model to
7 be valid generally. Do you remember that?

8 A. No. Excuse me. It may have been in the context of the
9 discount rate.

10 Q. Of the retrofit?

11 A. No, the discount rate. You are talking about my 1997
12 article.

13 Q. Yes, that's correct.

14 A. It may have been only in the context of the discount
15 rate.

16 Q. Okay. So in that article when you would make statements
17 about how the EPA model generally provides reasonable estimates
18 of economic benefit, you would contend that that is only relative
19 to the discount rate and not to the model results generally?

20 A. Well, first of all, we are referring to the previous
21 version of the BEN Model where the cost as of the date of
22 compliance was equal to the date of noncompliance, is that --

23 Q. I believe that's correct.

24 A. I have always maintained that in simple situations where

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1 a person was supposed to spend money and didn't spend money and
2 there are no other affects, under that simple -- there are no
3 other consequences of noncompliance, under those situations, the
4 BEN Model, indeed, does provide a reasonable estimate. In other
5 words, I have always maintained that the BEN Model is a very
6 simple version of the true situations.

7 Q. Okay. In that article, I think, just for the record,
8 you compared the BEN Model with alternative discount and compound
9 methods such as the after-tax risk-free rates and you found the
10 latter to lead to nonsensical results, I think you said?

11 A. Absolutely, uh-huh.

12 Q. Okay. Less than a year later I think you wrote the
13 article for Analysis and Perspective, the one that is entitled,
14 Why Is the Economic Benefit of Noncompliance Negative in So Many
15 Cases. You were critical of the BEN Model in that article
16 because it often defines economic benefit in very narrow terms.
17 Isn't that what you said?

18 A. That's what I just said.

19 Q. Right. It does not actually depict the structure of the
20 real world, I think was another statement that you made; is that
21 correct?

22 A. That's true, uh-huh.

23 Q. Do you find that there was any change in your philosophy
24 about the BEN Model based on what you wrote in 1997, and then

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1 what you wrote in 1998?

2 A. Within in those two times? No, the 1997 article just
3 dealt with the discount rate issues and nothing else. I mean,
4 those set of issues are different than the set of issues that I
5 am discussing in the 1998 article. In fact, I think somewhere in
6 that article -- I don't know whether it was in that article or
7 some other article, but I say that focusing on the actual
8 situation at hand or developing the facts of the case should --
9 is what should occupy an analyst's time and not worry about the
10 discount rate issues.

11 Q. In the article that -- I believe it is the 1998 article.
12 You seem to emphasis the need for the U.S. EPA and other
13 environmental regulators to factor in the consequences of a
14 company's mistakes made in retrofit situations, right?

15 A. That would be true, yes.

16 Q. Isn't what you were saying in that article is that the
17 BEN did not reflect the real world situation because the U.S. EPA
18 is not willing to factor in the retrofit concept in its economic
19 benefit?

20 A. Well, it is not only the retrofit concept. I know you
21 guys have been using this quite a bit, just the retrofit
22 situation. As I said, the U.S. EPA had viewed all along the BEN
23 Model as a very simple case of you were supposed to spend money
24 and you didn't. What I am saying is that you go into a field or

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1 a plant and see what the situation is, and you reflect all of the
2 consequences and the consequences of noncompliance, whatever they
3 might be.

4 You know, in some cases, for example, there was a case
5 where this particular plant was -- I think it was galvanizing
6 steel and it was in an acid bath and the acid fumes were -- the
7 acid fumes were the reason for the violation. But at the same
8 time acid fumes were also eating up the columns on the inside and
9 destroying the property.

10 Well, if you don't put in the proper pollution control
11 equipment, what I said is that you must take into account what
12 the consequences of the noncompliance are, and in that case the
13 damage to the building and structures. So that has been a very
14 consistent position on my part.

15 Q. Okay. Thank you. Can you tell us, Mr. Singh, would
16 agree with the following description of retrofit. That it is the
17 costs that have already or at one time been spent by a company
18 but which will have to be borne again by the company in order to
19 return to compliance?

20 A. In that situation some of those costs do occur, yes.
21 But I think it is much -- I have not talked about that in that
22 way, but there is much more to retrofit than what you just said.
23 But certainly there could be a very large part of the costs that

24 you are going to have to spend again.

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1 Q. Is it true that it doesn't matter whether the costs
2 previously incurred relate to the cost of environmental controls
3 or pollution abatement?

4 A. In general we really worry about environmental costs.
5 We don't worry about other costs.

6 Q. Are there any cases where you can't distinguish or
7 divorce the two?

8 A. I think in most cases you can divorce -- I mean, we look
9 at them separately. I mean, we are basically dealing with
10 environmental costs and not other costs. I don't recall any case
11 where we have included other costs. I can't really recall. Most
12 of the time it is all environmental costs, what were supposed to
13 be incurred and then we incur them again later.

14 Q. I don't know if I had asked you this earlier right at
15 the start. I apologize if I did. But of the cases that you
16 provided consulting services regarding economic benefit, can you
17 estimate how many of those involved retrofit costs?

18 A. I think my paper covers three or four, I believe, and
19 maybe three or four others.

20 Q. The article that you had written in 1998 covered three
21 or four real life or real world examples?

22 A. Yes, yes, those are real cases that I worked on.

23 Q. Okay.

24 A. And then I think three or four others beyond that.

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1 Q. Okay. Since then, I take it?

2 A. Since then or even before then. I just had picked those
3 cases to write articles.

4 Q. Okay. In that 1998 article you indicated at one point
5 that you conducted more than 15 cases in a row in which you had
6 calculated an economic benefit that was negative. Do you recall
7 that?

8 A. Yes.

9 Q. Do you have any idea whether all of those negative
10 estimates of economic benefit were the result of retrofit
11 situations?

12 A. I don't think they were. Maybe, as I said, you know,
13 three or four in that article plus a few more, maybe six or so
14 out of the 15.

15 Q. Okay.

16 A. I haven't really talked carefully in this light of the
17 retrofit situations.

18 Q. Well, the article is about retrofit situations, and the
19 statement as to the 15 cases in a row --

20 A. Yes.

21 Q. -- does not necessarily mean that all 15 of those
22 involved retrofit?

23 A. No, not by any means.

24 Q. Okay. You have indicated, though, have you not, that at

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1 least in that article and perhaps in your testimony earlier that
2 companies often retrofit their equipment and lose money in the
3 process; is that right?

4 A. It depends on the delay and it depends on the size of
5 the costs, yes.

6 Q. How often or how frequently does that occur do you think
7 in this --

8 A. They tend to lose money or how often do the retrofit
9 situations occur?

10 Q. Is it common for companies to lose money in retrofit
11 situations?

12 MR. BOYD: Objection to the -- well, objection to the form
13 in terms of foundation, in terms of companies generally.

14 MR. LAYMAN: I think the witness can answer just based on
15 his general knowledge of working in the field.

16 HEARING OFFICER KNITTLE: I will overrule it.

17 THE WITNESS: It is my bias, if you would say, or just
18 intuition that in retrofit situations there is going to be a very
19 low economic benefit. Negative? I don't know. But it is going
20 to be low, much lower than what the EPA would make it out to be.

21 Q. (By Mr. Layman) In the 1997 article, the use of the
22 after-tax risk-free rate in calculating the EPA penalties, you

23 stated that it does not make sense that companies who postpone
24 capital expenditures lose money while those who comply on time

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1 make financial gains. Do you recall that statement?

2 A. Yes, but that is, again, in the context of the discount
3 rate issue that I was discussing.

4 Q. Well, you stated, did you not, in that article, that
5 type of result would contradict all fundamental precepts of
6 financial analysis?

7 A. Within the discount issue, because there were -- you
8 take an expenditure and discount it back and bring it forward.
9 And when you do that, you find that you are gaining money by
10 delaying compliance. And I said that does not make any sense.
11 So only in that very limited context. That is why I made that
12 very strong statement about nonsensical results.

13 Q. Well, aren't companies who undergo retrofits in most
14 cases going to have enjoyed some benefit by having postponed
15 capital expenditures compared to those companies who did comply
16 timely?

17 A. No. I am saying that if there is any economic benefit,
18 it is going to be very low and in many cases it will be negative.
19 In fact, my article says that the presumption should be that they
20 lost money, rather than an agency coming in there and, like in
21 this case, ask for an \$8 million demand, where you have sort of

22 already assumed that there has been an economic benefit. I am
23 saying the presumption should be that if you know that there is a
24 retrofit case, that perhaps they lost money and not make that

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1 demand.

2 Q. Would you tell us of your understanding of the term net
3 economic benefit?

4 A. Netting is like anything else. You subtract, you know,
5 some numbers from others.

6 Q. Well, I guess what I am asking you is whether that term
7 encompasses your retrofit situation?

8 A. Any situation where you have some positive numbers and
9 some negative numbers and you just add them up or subtract them
10 to come up with a net number. If I give you some money and you
11 give me back, you know, we are sort of netting it out to see who
12 got what.

13 Q. Okay. Would you tell us of your understanding of the
14 term negative benefit?

15 A. Negative benefit is nothing but an economic loss, which
16 means by not complying you ended up losing money.

17 Q. Is that the same thing as a disbenefit?

18 A. The same thing, yes, very much so.

19 Q. Okay.

20 A. Some attorneys don't like my using the word disbenefit
21 and others say they don't care. Others insist on using, you

22 know, the word loss.

23 Q. Okay. Just so I am clear, then, the reference to the
24 term "negative benefit" or "disbenefit" that is distinct from

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1 "retrofit," correct?

2 A. Oh, very much so.

3 Q. Okay.

4 A. Very much so.

5 Q. Okay. When you refer to the fact that the U.S. EPA and
6 other authorities and, again, I think I am referring back to your
7 1998 article, you said that they should consider all of the
8 consequences of the noncompliance decision. Does that mean both
9 good and bad consequences?

10 A. Oh, absolutely.

11 Q. You have indicated that retrofit situations are
12 oftentimes mistakes or bad judgments, right?

13 A. If people did make judgments, yes, that is true.

14 Q. And as I think you have indicated in your article, the
15 bad consequences often result in the complete offsetting of the
16 benefit that a traditional economic benefit analysis would
17 derive; is that right?

18 A. I don't know. Did I say the complete?

19 Q. I don't think you said the word "complete" in the
20 article. I am asking you whether that is --

21 A. In some cases. In some cases that would be offset. In
22 other cases it would be -- an estimate would be reduced
23 significantly.

24 Q. Can you describe for us any good or favorable

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1 consequences that would be associated with a decision not to
2 comply?

3 A. Unfavorable? I mean, there could be -- there could be a
4 competitive advantage, obviously.

5 Q. Okay.

6 A. That would be one. I mean, I can think of many others.
7 In fact, you would save money in many cases. I can give you
8 examples of those various situations.

9 Q. Well, you indicated in your answer the concept of
10 competitive advantage. Is that the same thing as a company
11 gaining an increase in market share?

12 A. Of course.

13 Q. Can it be other things besides that?

14 A. I am sure that there are other things, you know. I
15 mean, we are talking basically about two concepts that we deal
16 with usually. It is the financial gain due to this calculated in
17 this manner or market share would be one too, of course. Those
18 are the two traditional ones. I would have to think hard for
19 others.

20 Q. Well, where does the concept of illegal profits fit in

21 or is that --

22 A. That's part of the competitive advantage discussion.
23 That is part of my first article listed here, the wrongful
24 profits in the Dean Dairy case.

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1 Q. I am sorry? Were you referring to the article you
2 wrote --

3 A. Yes.

4 Q. -- on Dean Dairy; is that right?

5 A. Yes, Dean Dairy.

6 Q. Okay. Do you agree, then, that a company can benefit
7 from its noncompliance through competitive advantage?

8 A. Yes.

9 Q. I think you have indicated that. In fact, couldn't the
10 company benefit from its noncompliance through that competitive
11 advantage so much so that it might wipe away any of the
12 consequences associated with, say, a retrofit situation?

13 A. Well, in this -- when we say that there is a competitive
14 advantage, yes, in some cases that may be true, but it would have
15 to be a very unusual case for a very simple reason. In most
16 cases the cost of environmental controls -- some people may be
17 surprised by this -- are a very small part of the overall cost of
18 operations. So even if you apply the traditional BEN Model to
19 that and calculate the economic benefit, I say traditional, the

20 old version, in a simple way, even that amount is not going to
21 change your market share in most situations.

22 Q. Well, what do you mean by that? Do you mean that your
23 market share benefit would be much larger in comparison to the
24 loss faced by the company as a result of a retrofit?

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1 A. No, no. What I am saying is let's suppose -- let's take
2 this \$8 million economic benefit that you calculated initially.
3 I mean, I hate to use that number, but that number is not
4 minuscule compared to -- even that a large number is minuscule
5 compared to the total rate base of the company. Saying that they
6 would gain a greater market share is sort of surprising to me.
7 And if we take the lower number that we calculated, even
8 \$365,000.00 or \$368,000.00, even if we take that into account, it
9 is a -- it is going to amount to a hill of beans as far as the
10 market share is concerned.

11 Q. Well, did you consider any of the possibilities such as
12 the market share or improved competitiveness that could have been
13 associated with Panhandle's noncompliance in this case?

14 A. We gave some thought to it, yes.

15 Q. You did some?

16 A. We gave some thought to it, yes.

17 Q. What kind of thoughts were they?

18 A. That if we -- that even if we don't pay any attention to
19 the retrofit issue and just assume that they were supposed to

20 spend \$368,000.00 and somehow -- not somehow, and if at that
21 point those costs had been incurred in 1988 and included in the
22 rate filing of 1988, what sort of an effect would that have. We
23 just did some quick calculations on that issue. It came to .01
24 percent of the rate being charged the gas customers, .01 percent.

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1 Again, we did a quick calculation and the .01 percent is going to
2 amount to a fraction of a penny of the cost of transmitting the
3 gas.

4 Q. So how did you assess or calculate, then, the type of
5 competitive advantage that could have been obtained by Panhandle
6 in this case?

7 A. You look at -- the market share would depend on the
8 difference in the cost. Let's say that we both buy gas from
9 somebody, and if both -- one is selling it at 35 cents, whatever,
10 cubic feet, and the other one is selling it at 35.1 cents, it is
11 not going to make any difference in our decision as to who we buy
12 it from, not that part alone. It would be made from other parts.
13 So the same here.

14 If you talk about, you know, .01 percent, it is going to be
15 even a less significant number than what I have just given you,
16 the 35 versus 35.1, 35.01 cents. So there is nothing there. I
17 mean, consumers won't even notice. Not even the consumer won't
18 notice. I don't even think the company would notice.

19 Q. Well, you didn't actually in calculating that on sort of
20 a rough estimate basis, you didn't go to any other companies
21 along or in the pipeline industry or assess -- well, strike that.

22 In calculating what you just described, you didn't look to
23 Panhandle's competition, did you, for specific numbers or
24 anything like that?

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1 A. No. This number is so small, you know, that it didn't
2 make any sense to do any of that stuff.

3 Q. So what you calculated was essentially on the basis
4 of -- or was based on just Panhandle's -- well --

5 A. Let me just explain. What I would be concerned about
6 and what anybody should be considered about is that if the cost
7 of gas is 35 cents for whatever unit per unit, and the
8 environmental costs increase that cost by let's say five cents or
9 ten cents. Ten cents, yes, I would be concerned, because then I
10 am worried about whether I can be competitive with my
11 competitors. But if it is .01 cent, let's be reasonable, nobody
12 is going to be concerned about that.

13 Q. In your article about why it is that economic benefit is
14 negative in so many cases, you indicate that an economic benefit
15 analysis is not concerned with whether the violator was
16 intentional or unintentional in its actions. And that the
17 circumstances surrounding the infraction don't really matter in
18 calculating an economic benefit; is that correct?

19 A. The circumstances? In fact, what I am saying is the
20 circumstances actually do matter. What doesn't matter is what
21 the intention of the violator is.

22 Q. Right. The intention surrounding the company or the --
23 okay.

24 A. Yes. Because you want to see whether -- it does not

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1 matter whether somebody -- you know, whatever my intention was in
2 doing something, if I lost money, I lost money. Or I gained
3 money, or whatever it might be. The intention does not matter.

4 MR. LAYMAN: May I have just a moment?

5 HEARING OFFICER KNITTLE: Yes, you may. Let's go off the
6 record.

7 (Discussion off the record.)

8 HEARING OFFICER KNITTLE: All right. We are back on the
9 record.

10 MR. LAYMAN: Okay. Thank you.

11 Q. (By Mr. Layman) Mr. Singh, I am again going to cite to
12 the article about the use of the after-tax risk-free rate theory,
13 the 1997 article.

14 A. Okay.

15 Q. Which I read thoroughly for the purposes of this
16 hearing. You state that environmental expenditures are not
17 risk-free and that by not complying the violator avoids not only

18 expenditures, but also the risks associated with them. You go on
19 to state that the avoided risk represents a benefit to the
20 violator. Do you recall stating that?

21 A. Sure, of course.

22 Q. Okay. Isn't it true that the risks associated with
23 avoiding environmental expenditures includes the risk that future
24 compliance costs could increase?

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1 A. It is not -- it is really -- they may increase, but that
2 is not what we are talking about there. We are talking mostly
3 about the financial risks, not to the company, but the risk of
4 bankruptcy and things of that sort.

5 Q. Isn't it a financial risk if the company has to spend
6 more money in the future?

7 A. It is in the context of a financial theory. It is a
8 cost risk maybe, but that is not what is being --

9 Q. Well, I will maybe grant you that your article and the
10 quote in your article was confined just to that topic that you
11 address therein.

12 A. (Nodded head up and down.)

13 Q. But apart from that, isn't it true that the risks
14 associated with the cost of not complying includes the risk that
15 they will have to -- that a company will have to retrofit its
16 engines or its equipment in the future?

17 A. No, not in the context of that light, no, absolutely

18 not.

19 Q. Why wouldn't that be a financial consideration?

20 A. Whenever we talk about some costs increasing in the
21 future, this is the context that we are meaning, engineers and
22 cost analysts and all of that that discuss it, is that you have
23 one technology, one simple technology, and then that in the
24 future the costs of that -- that technology may become more

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1 efficient, or in some cases less efficient. They may end up
2 spending more money or less money. In most cases it is less
3 money.

4 But that's the context in which people talk about delaying
5 expenditures and what the risk of costs increasing, but it is
6 really a single piece of equipment and not an entire situation
7 where you may want to retrofit or not. That is not really part
8 of the discussion.

9 Q. Isn't that a rather narrow view of risk, though, for
10 purposes of --

11 A. No, absolutely not. Absolutely not. I think that is a
12 traditional way for -- I mean, that's how people discuss it in
13 the profession.

14 Q. Doesn't your opinion that the retrofit costs should be
15 considered to offset economic benefit, doesn't that eliminate or
16 impair the risks that would normally be associated with delayed

17 expenditure?

18 A. Say that again. Doesn't the --

19 Q. Don't you eliminate or impair or take away some of the
20 risks that would normally accompany a company's decision to
21 comply?

22 A. No, absolutely not.

23 Q. And why is that again?

24 A. Because that is a different concept of risk that we are

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1 talking about. This is whether there is an economic benefit or
2 not. Whether the person lost money or didn't lose money. It can
3 happen even when, you know, as I gave the example of retrofitting
4 the car with the radio. You know, the kid lost money.

5 Q. Well --

6 A. And --

7 Q. I guess I am getting a little confused. I go back to
8 the discount rate article of yours, and I read in there this
9 reference that compliance is not voluntary. It is required by
10 law. Regulated companies do not have the luxury of investing in
11 some riskless venture. They must invest in environmental
12 expenditures, whatever the risks associated with them might be.
13 By not complying they avoid the expenditures and the risks
14 associated with them. Is that consistent with a --

15 A. That is very consistent. That article is about discount
16 rate. It has nothing to do with this, actually.

17 Q. Well, it may be about discount rates, but --

18 A. I should say that you are very --

19 Q. Why isn't that relevant?

20 A. I should say that you very brave reading that article
21 and trying to understand and also you are very brave at
22 connecting that article to the retrofit situations.

23 Q. Well, let me --

24 MR. BOYD: I am just going to object if Mr. Layman is just

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1 going to read portions of the article into the record. If he has
2 questions about it, then he should ask them.

3 MR. LAYMAN: That is what I am doing by reference to --

4 HEARING OFFICER KNITTLE: I will overrule that as long as
5 Mr. Layman is reading for a purpose here.

6 Q. (By Mr. Layman) Do you generally agree with a statement
7 that I believe maybe the U.S. EPA has made that the goal of the
8 economic benefit is to make a violator financially indifferent to
9 the decision as to whether to comply or not?

10 A. That is exactly the standard that I was using in
11 applying to the retrofit situations, yes. How you do it is the
12 question. Absolutely that's the standard.

13 Q. Okay. Well, maybe you can explain to me if a company
14 knows ahead of time that a ten year delay in its purchase of
15 equipment will be offset or even wiped away in a consideration of

16 any of its economic benefit, is that company going to be
17 indifferent to the decision as to comply or not comply?

18 A. If it knows in advance that it is going to be -- I have
19 never found a situation where people know this in advance. In
20 fact, the --

21 Q. If the company anticipates that they are going to --

22 A. Retrofit and --

23 Q. Exactly.

24 A. And actually end up losing money maybe? No.

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1 Q. Or that the money will be recouped or ignored in the
2 consideration of an economic benefit determination?

3 A. The people who have come across who made the decision
4 have no idea, none whatsoever. I have never found one person.
5 In fact, in this one case the company was losing \$2 million a
6 year, and when I did my analysis they were so surprised that they
7 had actually lost money.

8 Q. Okay. Thank you.

9 A. The standard is if you have --

10 MR. BOYD: Mr. Singh, there is not a --

11 THE WITNESS: Okay. Sorry.

12 MR. LAYMAN: Do we have a question --

13 MR. BOYD: -- (continuing) question pending.

14 Q. (By Mr. Layman) Can you tell us, Mr. Singh, what you
15 refer to as an after-tax risk-free rate? What is your

16 understanding of an after-tax risk-free rate?

17 A. Well, the risk-free rate is about -- give and take a few
18 percentages here -- four percent or so. It is really the -- some
19 people use it for the most part in the short-term as a 30 day
20 treasury rate. Some people use it on a longer term, and
21 depending on what their time frame is, it is basically the
22 treasury rate, and you apply that. So what these people are
23 saying is that basically their investments are risk-free so it
24 should be discounted at that rate.

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1 But when you do the calculation it is like the debt costs
2 that we were talking about. It is -- we apply that to the
3 after-tax issue, you know, one minus the tax rate. So if it is
4 four percent and the tax rate is the 40 percent, you multiply the
5 four times .6, so one minus .4, .6 so that comes to 2.4 percent.
6 So what they are saying is that this thing should be brought
7 forward at that rate and ignored the risk that --

8 Q. You are referring to people who advocate the use of an
9 after-tax risk-free rate --

10 A. Yes.

11 Q. -- to calculate the economic benefit?

12 A. Yes, and you basically take the risk out of the whole
13 picture and treat this as debt.

14 Q. When the authors of those articles that confronted you

15 with those arguments, did their reference to an after-tax
16 risk-free rate refer to the shorter term T-bill rate or a longer
17 term, or do you know?

18 A. The calculations that I have seen are short-term but,
19 you know, they could be 20 year bonds, too, if you want to, you
20 know, that is perfectly okay, too. If you want to take it over
21 the period of 20 years you could take a little higher rate as
22 long as those are, you know, treasury stock, that is okay.

23 Q. Well, which have you found to be the standard when
24 companies contend that the risk-free rate ought to be used?

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1 A. It depends on the investments I am looking at. If they
2 are short-term investments, I will take a shorter period. If it
3 is longer term, I normally calculate cost of capital using the
4 capital asset pricing model. And there are a series of variables
5 in that, so if we want to take -- a risk-free rate is one of the
6 variables. So if I take that as a short-term then I have to take
7 everything else as a short-term. So it is the consistency that
8 matters rather than, you know...

9 Q. It is true, is it not, that in some of your articles you
10 have advocated the use of a risk adjusted rate rather than the
11 risk-free rate?

12 A. Yes, that is the rate calculated by the capital asset
13 pricing model. It is very similar to the stuff that Dr. Nosari
14 has done, except Dr. Nosari just used a different formula. There

15 is an explicit consideration if risk is not there. But in the
16 CAP-- what we call the CAP method, the capital asset pricing
17 model, the risk is explicitly considered. If you invest in
18 stocks you have a better value of the stock and less of a risk
19 factor.

20 Q. Can you give us an explanation of how you have made the
21 type of rate adjustments that you describe in those articles?

22 A. Basically use that method to calculate cost of capital
23 using the capital asset pricing model, and it automatically takes
24 into account.

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1 Q. Okay. In your calculations that you conducted in this
2 case affecting Dr. Nosari's weighted average cost of capital,
3 isn't it true that some of your rates identified as, again, the
4 weighted average cost of capital for individual years, isn't it
5 true that some of those are below or near the five year treasury
6 rate?

7 A. You mean there are some numbers that are six percent or
8 so?

9 Q. Well, I will call your attention to I guess the very
10 last page of Exhibit Number 23, where you duplicated Dr. Nosari's
11 cost of capital.

12 A. I am sorry? What exhibit?

13 Q. I am sorry. Panhandle Exhibit Number 23.

14 A. Okay.

15 Q. It is your supplement to the economic benefit report.

16 A. Okay. Uh-huh, some of them are low.

17 Q. Okay. Which ones would you identify as being low from
18 the last --

19 A. Low in the sense that -- these are, first of all,
20 after-tax rates.

21 Q. Okay.

22 A. These are not before tax rates. The second is that they
23 essentially reflect Dr. Nosari's calculations. They -- I just
24 plugged in the correct data. They reflect his calculations, his

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1 matter of doing the work, not mine.

2 Q. But --

3 A. Well, let me --

4 Q. Isn't it true, though, Mr. Singh, that your method of
5 calculation or your revision of Dr. Nosari's calculations
6 affected the growth and the short-term debt components of the --

7 A. Yes, those are the two, yes.

8 Q. Okay. Isn't it true that the results of your revisions
9 ended up in there being a weighted average cost of capital that
10 at least in some of these instances comes close to the risk-free
11 rate?

12 A. No. The risk-free rate -- if you take a look at the
13 risk-free rate now I think it is probably much less than -- this

14 document is in the mid 1980s here. The thing is that for this
15 company, for this company, it is a regulated industry, number
16 one. Number two --

17 Q. This is what? I am sorry? I didn't quite --

18 A. This is a regulated industry, the company is, you know,
19 rate-making, where the risks are low, number one.

20 Q. Okay.

21 A. Number two is that during this period, and I mean this
22 period from 1986, 1985, onwards through 1996 or so, the company
23 was losing money, we know, in some years we lost money.

24 Q. Do you know how many years they lost money?

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1 A. I believe in two, in 1988 and 1990. And in couple of
2 others the amount of money lost is -- the amount of money earned
3 is less than normal, you could say. This is the entire company
4 that we are talking about, fluctuation in the stock. And you
5 also had the reduction in dividends in a number of years. If you
6 see that dividends were given to people, you will see they have
7 been reduced.

8 What you find under those conditions is that the growth
9 factor is going to be very low, the cost of stock, the price of
10 stock is not going to go up unless there is some extenuating
11 circumstances otherwise. So the calculations here other than the
12 growth factor, other than the growth factor all of the other

13 numbers are what they were, you know, the cost of debt and there
14 is nothing to -- this is what the numbers are calculated and that
15 is what it is.

16 Q. Okay. Did you compare the weighted average cost of
17 capital estimates that you derived from the results of your
18 calculation, did you compare them with the risk-free rate or the
19 T-bill rate that existed at that time?

20 A. I didn't do that. But, again, these are after-tax,
21 weighted average cost of capital. You just can't do that, you
22 know, compare them to that.

23 Q. I guess I am not sure if I understand you in that
24 regard.

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1 A. This takes into account the tax effects on debt, for
2 example. That is -- what is the cost of that here in? The
3 pretax cost of debt varies between -- I am just going to eyeball
4 this number. The lowest is 7.7 percent and the highest is 10 or
5 12 percent.

6 Q. I am sorry. What are you referring to on the document?

7 A. If you will look at my sheet of calculations.

8 Q. Okay. Your sheet?

9 A. On line 18 all the way through it starts at .08404 for
10 1987.

11 Q. Uh-huh.

12 A. And if you run through all the way through to 1995, the

13 rate varies from -- the lowest is 7.7 -- I am just -- 7.71
14 percent in 1988. And then we have 11 point -- what is the
15 highest number? 11.71 percent in 1993. This is line 18.

16 Q. Uh-huh.

17 A. So it is reflective of that debt level that the company
18 owed. And then as far as the stock was concerned, it was taking
19 a beating. That is what the cost effect would be. That cost
20 effect fell very low during that period. That is -- what can you
21 do, that is the way it was.

22 Q. I realize that is your contention in this case. Let
23 me --

24 A. If Dr. Nosari feels they are low here he could use some

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1 other method to calculate the cost of capital. This is not my
2 method or choice.

3 Q. Well, but your revision to the methods employed by Dr.
4 Nosari --

5 A. Using --

6 Q. -- clearly change the outcome --

7 A. Using the --

8 Q. -- from the estimate, did it not?

9 A. Using the correct numbers. Dr. Nosari is not -- he
10 shouldn't be using high numbers and they are the wrong numbers.

11 He should be using the right numbers. That is all the difference

12 is.

13 Q. Okay. Give me just a second before I ask you another
14 question.

15 (Mr. Layman and Ms. Carter confer briefly.)

16 Q. (By Mr. Layman) I want to go back just briefly, if I
17 may, and have you speak to the capital asset pricing model. Can
18 you tell us what the components are of the capital asset pricing
19 model, what does that consist of?

20 A. The risk-free rate plus -- the risk-free rate plus beta
21 of the stock, times the risk premium. I think that is what it is
22 basically.

23 Q. Okay. What is the beta that you referred to? The beta
24 coefficient?

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1 A. Yes, the beta coefficient represents the risk compared
2 to the market.

3 Q. Uh-huh, and that is factored in in the --

4 A. Yes, at value one it would be no risk at all. At more
5 than one it would be higher than the market risk.

6 Q. Right.

7 A. And the risk premium represents the risk premium.

8 Q. Okay. And that is employed in the capital asset pricing
9 model?

10 A. Yes.

11 Q. Okay. If a company loses money, can you tell us what

12 generally happens to risk and the cost of capital?

13 A. The cost of capital -- when companies lose money -- like
14 now, you have earning reports of Intell just today that is in the
15 newspaper. Intell does not have enough revenue. I am not sure
16 if they are going to lose money, but they do not have enough
17 revenue. The stock price is going to go down, in general. It
18 depends on the company. Some companies are a sleepy company and
19 nobody notices. But Intell you notice fast and in general a
20 dividends reduction, an earnings reduction will reduce the price
21 of their stock.

22 Q. I would like you to turn your attention now, if you may,
23 to the issue of how you valued Panhandle's growth.

24 A. Okay.

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1 Q. I think your earlier testimony had indicated that growth
2 is a combination of dividend yield as well as the value of the
3 stock over time; is that correct?

4 A. Uh-huh, yes.

5 Q. You also, I think, referred in your testimony to the
6 fact that -- well, in fact, you can refer, if you like, to
7 Panhandle Exhibit Number 23, and to this table that looks like it
8 is four pages from the back.

9 A. Uh-huh.

10 Q. Where you calculate the growth factor using Pan Energy

11 stock price data.

12 A. Okay.

13 Q. I think that you indicated in your testimony, and please
14 correct me if I am mistaken, that you used a 30 week average
15 because --

16 A. It is a 26 week. I am sorry.

17 Q. I am sorry. That is right. I am looking at 30 on my
18 notes.

19 A. Yes, I know. I understand.

20 Q. But I understand that you did correct that to represent
21 a 26 week average. Now, I think you had referred to S&P,
22 Standard & Poor's --

23 A. Yes.

24 Q. -- for that reference?

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1 A. Stock reports. Stock reports.

2 Q. Oh, it is just --

3 A. S&P Stock Reports, yes.

4 Q. -- stock reports? Okay. What was that a report of, if
5 you will?

6 A. S&P regularly publishes books, essentially, to give you
7 stock prices of any company, each day over a period of time. So,
8 in fact, the books I use contain all of the companies whose stock
9 is traded. I believe it is all of the companies. Maybe it is
10 just the S&P 500. I am not sure. But each company's stock every

11 day is listed alphabetically by the company's name and this --
12 and this data are given here.

13 Q. Okay.

14 A. It is available in any library.

15 Q. So you looked in the S&P report --

16 A. Yes.

17 Q. -- for Panhandle Eastern Pipe Line?

18 A. Yes.

19 Q. Okay. Was that a report that would have been published
20 during the time frame that you calculated the economic benefit
21 for --

22 A. I am sorry. I am not -- let me just correct -- I
23 anticipate your question here. It is a not a report of the
24 company of Panhandle. It is not one single report referring to a

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1 company. It is essentially in a book form.

2 Q. Right.

3 A. The stocks of all of the companies are given, and
4 Panhandle is only one of the companies.

5 Q. Okay.

6 A. So for each page the company stocks are given.

7 Q. Okay. I think I understand. Again, you used -- I am
8 sorry. Did you say Pan Energy or Panhandle?

9 A. It was Panhandle until, I believe, 1995 or 1996. For a

10 very short period it was Pan Energy, just before they were
11 bought.

12 Q. Do you know why there is a reference in that report that
13 breaks the stock value down on a 26 week average rather than a --

14 A. You are going to call this hearsay, but I will --

15 Q. Well, all I want is your knowledge, not what someone
16 else tells you.

17 A. Well, I went to an authoritative source, the people who
18 prepared those reports, to find out what this is for. And they
19 said, one, it has been a practice for a very long time to give
20 the 26 week average. Second, they often get calls from big
21 investors -- I mean, like mutual funds and all -- to find out
22 what capital appreciation or the increase in stock of a company
23 is, and they look at a 26 week average.

24 Q. Do they provide any sort of reporting or calculation for

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1 the 52 week average?

2 A. No, that is the only number given, 26.

3 Q. Okay. The 26 is the only reference made in the S&P
4 report?

5 A. Yes. They actually give -- it is 26 week running
6 average given at the end of each quarter, the previous --

7 Q. So the estimate that you used, was that for --

8 A. For the 26 weeks ending on that particular day.

9 Q. Okay. It was not a 26 week average taken out of the

10 entire year?

11 A. No, it is just the previous 26 weeks.

12 Q. So it is a running total, in other words?

13 A. Yes, a running total of that.

14 Q. Okay. Can you tell us as to whether or not -- well,
15 strike that.

16 Did your estimation of growth of Panhandle stock over time
17 take into consideration the potential strengthening or the
18 increased potential of growth shown by Panhandle in late 1996?

19 A. Well, that reflects the data through 1995, my
20 calculations. There was a significant increase in some numbers
21 in 1996, so I didn't take those into account. But they got
22 bought by Duke in early 1997, I believe, very early.

23 Q. That's correct.

24 A. But the numbers increase significantly for 1996, and

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1 that is part of why I didn't take 1996 into account.

2 Q. But I guess my question is the fact that Panhandle stock
3 value may have been rising at the time that you pulled your
4 reference of the 26 week average, did you factor that in at all
5 or did --

6 A. The only thing I could have done, if at all, is chosen a
7 different date to -- as a reference point, maybe the end of 1996,
8 could have given -- if we take a look at my first page, I could

9 have given a -- let's see. The 26 week average on 09-27 of 1996
10 was 32.375. And then at the end of 1996, on 12-31 of 1996, it
11 was 35.75.

12 Q. Right.

13 A. I could use that number but on the other hand, I could
14 also go before September of 1986. I could go a little bit before
15 that and the prices were higher then. The prices were higher
16 back then in 1986.

17 Q. In what year? I am sorry?

18 A. In 1986.

19 Q. 1996?

20 A. In 1986, actually.

21 Q. Okay.

22 A. So if I extend the time period on that side it was
23 higher, too. So the thing that -- rather than focusing on
24 specific numbers, you look at the entire period, approximately

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1 ten years, and essentially the stock price is flat. That's
2 really what it comes down to. And that's reasonable a -- that is
3 just what was going on in the market at that point.

4 Q. Okay. There is a reference here to the December 30th of
5 1998 -- I am sorry -- the 1988 date?

6 A. Uh-huh.

7 Q. I couldn't help noticing the price per share value of
8 the stock is \$25.25, and it is the same for the 30 week average.

9 Is that just a coincidence?

10 A. I think that's a coincidence, but --

11 Q. Okay.

12 A. -- maybe I am -- maybe I didn't write it down right, but

13 I don't think so.

14 Q. Okay. Did you pull the price per share estimate that

15 you used or depicted in this chart from the same source that you

16 pulled the --

17 A. Yes, it is from the same page.

18 Q. Okay. Do companies report or promote, advertise, if you

19 will, their return on equity in their financial reports?

20 A. I imagine it would depend on how -- no, I have never

21 seen them promote it. I have just seen them stated in different

22 ways.

23 Q. Where have you seen them stated?

24 A. Sometimes in the annual report. They give you the

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1 information as part of the -- as sort of the appendix and

2 summarize the data for ten years or something.

3 Q. Uh-huh.

4 A. We often find them there.

5 Q. Do you recall whether you ever obtained that kind of

6 estimates from any annual reports filed by Panhandle Eastern?

7 A. Actually, we couldn't get them that easily. I have not

8 seen any Panhandle reports.

9 Q. Okay.

10 A. We had trouble getting them.

11 Q. So you are not aware of whether they ever reported
12 annual -- I am sorry -- strike that.

13 You are not aware of whether Panhandle Eastern ever
14 reported some measure in growth rate to investors?

15 A. I don't think it would say growth rate. It might say
16 return on equity based on the numbers. That they might do. No,
17 I have not seen them.

18 Q. What is the distinction, then, between your reference to
19 growth rate and return on - --

20 A. Well, return on equity numbers given in the financial
21 statement are based on the financial data, and not calculated in
22 this manner. I mean, you are talking about long-term growth. It
23 is just basically calculating the return on equity and see what
24 the net income is and what the stock value is, and then divide

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1 the two. That's what they would do.

2 Q. Okay. So please correct me if I am mistaken. It is
3 true that if a company's return on equity is high then investors
4 would be more likely to invest in them; is that right?

5 A. Very much so.

6 Q. Is the company's growth rate, then, a useful indicator
7 for investors?

8 A. Yes. I don't think people were willing to invest in
9 Panhandle.

10 Q. I am sorry?

11 A. I don't think people were willing to invest in Panhandle
12 in the 1980s.

13 Q. Well, wouldn't an annual growth rate of two percent,
14 that you calculated in this case, be so low as to reflect
15 something that if I were an interested investor I would be likely
16 to shy away from?

17 A. I think you would be crazy during that period, unless
18 you are -- you know, unless you wanted to invest for a very long
19 period and, obviously, the company is going to do something to
20 increase the value of the stock. You know, if you wanted to take
21 that long-term view you could do that and would maybe be
22 considered very wise to do that.

23 But I am not sure that given the opportunities that you
24 have in the market, I don't think you would do that. But let me

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1 just say one more thing. The two percent growth rate here during
2 this period is not as bad as you might want to make it out to be.

3 Q. Well, why do you see that?

4 A. Because the FERC actually allows -- you know, will
5 consider four to five percent as a decent number.

6 Q. Who had, now?

7 A. FERC.

8 Q. FERC?

9 A. Uh-huh. So, you know, two percent, given the conditions
10 there, is not that bad, actually.

11 Q. And where did you derive the estimate that you did with
12 respect to FERC's --

13 A. Well, the --

14 Q. -- growth rate?

15 A. Well, I calculated the Value Line information from the
16 Value Line data from the library on a number of pipeline
17 companies, distribution companies, some not as large, and they
18 discussed the dividend yield and all of that and said, well,
19 this is not in the right ballpark or people are getting concerned
20 about this, it is too low, or in some cases it is very healthy.
21 I also talked with Mr. Grygar, and he said that maybe they should
22 hire John Nosari if he can get an eight percent growth factor.

23 Q. Well, you indicated that your Value Line reference has
24 identified a five percent rate of return --

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1 A. Well, that is sort of --

2 Q. -- right, allowed by FERC?

3 A. Well, not only Value Line, but FERC, based on Mr.
4 Grygar's --

5 Q. Oh, you relied on Mr. Grygar for that information?

6 A. Right. But I also looked at the data from Value Line.

7 Q. And what specific information did you look to in Value
8 Line?

9 A. The dividend yield, for the most part.

10 Q. And was that specific to the company or to the industry
11 in general?

12 A. To companies.

13 Q. Okay. You would not have any interest -- strike that.
14 You would not believe it appropriate to look at an industry
15 average for that component?

16 A. During that period -- I think we are talking about that
17 period. Yes, I think the correct approach is to actually look at
18 the industry, not the company, per se. Because even in Panhandle
19 Eastern Corporation, Pan Energy is only, if I remember, 30
20 percent, maybe 25 percent of the company. And within Panhandle
21 then there are different -- the pipeline is only one sector.

22 They have -- they used to, and they still do, I believe,
23 buy and sell gas on the spot market. Buy and sell. Nothing
24 comes through their pipelines. And so it is the affect of

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1 various things. So you want to isolate pipeline companies whose
2 stock is trade and look at their information in order to
3 calculate the cost of capital. That is sort of the correct way
4 to do things.

5 MR. BOYD: I am sorry. If I may, do you know how much

6 longer you are going to have? Could we take just a two minute
7 break?

8 MR. LAYMAN: Yes, we can take a break. If we do that I
9 think maybe we will run us to 5:30 or 5:45.

10 MR. BOYD: To 5:30?

11 MR. LAYMAN: I am sorry. To 4:30 or 4:45. I am sorry.

12 MR. BOYD: Okay. That's fine.

13 HEARING OFFICER KNITTLE: Let's go off. We will take a
14 break. Let's try to make it relatively short, though.

15 (Whereupon a short recess was taken.)

16 HEARING OFFICER KNITTLE: All right. We are back on the
17 record.

18 Mr. Layman, continuing your cross.

19 MR. LAYMAN: Yes. Thank you.

20 Q. (By Mr. Layman) I have a smattering of questions now to
21 ask you that may or may not be related to each other, so we will
22 take them one at a time if you don't mind.

23 In your earlier testimony you had indicated that the -- let
24 me think for a second. Okay. I have got it now. In your

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1 earlier testimony you had indicated that you had found a
2 reference to the rate of return allowed by FERC of I think five
3 percent and that --

4 A. Growth factor.

5 Q. Growth. You are correct. And that compared to the two

6 percent you arrived at in your calculation. Had you factored in
7 a five percent growth rate to your analysis, that would have had
8 a pretty significant impact, wouldn't it have?

9 A. A significant impact? Maybe a one percent affect on the
10 bottom line. That is just my seat-of-the-pants, you know,
11 compared to the three percent difference between Dr. Nosari and
12 mine.

13 Q. I guess I am thinking in terms of you having recognized
14 the cost of debt component, the impact of that being somewhat
15 marginal or immaterial?

16 A. (Shook head from side to side.)

17 Q. No?

18 A. That's your characterization of that number, not mine.

19 Q. Okay. Let me think for just a moment. Your answer to
20 my earlier questions seemed to suggest that had you used a five
21 percent growth rate rather than a two, it would not have had a
22 significant impact on your analysis?

23 A. I, quite frankly, don't know what kind of impact it
24 would have had. All I can say is that the numbers calculated

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1 would have been higher, but for 1987 rather than 8.14, maybe 9.14
2 or something like that.

3 Q. Okay. And with respect to the cost of debt issue that
4 you had addressed with Dr. Nosari, was it your understanding that

5 had -- strike that.

6 With respect to that issue, was it your understanding that
7 the result of that -- strike that.

8 Let me think for just a minute. Okay. I will get about it
9 this way, Mr. Singh.

10 A. Okay.

11 Q. Would you characterize the change that you had made to
12 Dr. Nosari's WACC calculation, with respect to the cost of debt,
13 would you characterize that as significant?

14 A. I don't know what criteria you want to determine for
15 significant or insignificant.

16 Q. Did it have -- did it have --

17 A. It is an immaterial affect.

18 Q. Did it have a --

19 A. It is immaterial. That's how I would like to say it.

20 Q. Okay.

21 A. Significant or not significant, I don't --

22 Q. Okay. Well, let me ask you this, then. Did it have a
23 marginal impact on your analysis if you were to have excluded the
24 changes that you made to the growth rate?

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1 A. Again, marginal is not defined. But it would have had
2 some affect, yes. I mean, I think any affect is material one
3 should consider.

4 Q. So you are not --

5 A. Let me just put it this way. If you have to -- you
6 know, I mean, if you ask a company to pay you \$50,000.00 versus
7 \$150,000.00, there is a difference. \$100,000.00 is not small. I
8 mean --

9 Q. Okay. So you are not prepared to sort of weigh the two
10 primary changes you had made to Dr. Nosari's WACC calculations
11 and say that one was more of an impact than the other; is that
12 right?

13 A. Well, clearly, the growth rate had more impact than the
14 debt issue, obviously.

15 Q. Okay.

16 A. I mean, we can redo these calculations, you know, you
17 can do them.

18 Q. Okay.

19 A. No problem.

20 Q. Okay. Thank you. If a stock price goes down, doesn't
21 that reflect -- or doesn't that mean that the cost of capital
22 actually goes up?

23 A. You have the cost -- if the stock price goes down, you
24 buy --

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1 Q. If it goes down?

2 A. You are going to -- the investors expect less from the
3 company, so it should -- you know, the expectations of the cost

4 of capital based on what investors expect from you --

5 Q. It would not have any impact on --

6 A. No, it would have if --

7 Q. -- the cost of capital? It could have?

8 A. It would have.

9 Q. Okay.

10 A. I mean, you are going to have -- if a company is losing
11 money, you will have to pay the investors a lot for them to come
12 in and buy the stock in some manner. So the expectation is that
13 you would not make money and so, therefore, they would not
14 invest. So that is what would happen. That is the problem with
15 some of these calculations, the calculation method. It does not
16 reflect those expectations.

17 Q. Okay. Thank you. Do you recall what the dividend yield
18 was for Panhandle that you identified in Value Line?

19 A. I didn't have any Value Line report for Panhandle. I
20 did not have -- I had for other companies.

21 Q. Okay.

22 A. And it varied from one or two percent to five or six
23 percent depending on the year and depending on the company.

24 Q. Isn't dividend yield only one part or one component in

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1 the cost of common stock?

2 A. Yes. It is the value of the stock itself that matters.

3 That is how we did the calculations.

4 Q. Okay. When you referred to Value Line in your
5 consideration, did that service or publication identify what the
6 growth was for the industry, as you indicated?

7 A. They only give dividend yields. They give the price of
8 the stock, but they don't calculate the growth factor.

9 Q. Again, that was relative to other companies and not to
10 Panhandle specific --

11 A. Yes, there --

12 Q. -- information?

13 A. -- was specific information on other companies, not just
14 Panhandle.

15 Q. Okay. Wouldn't the cost of common stock be both
16 dividend yield and growth together?

17 A. Yes.

18 Q. Okay.

19 A. In this method of calculation.

20 Q. In this particular method of calculation?

21 A. Yes, it is the one that is used here, yes.

22 Q. Okay. There are others?

23 A. That's what I said, the cost of equity using the capital
24 asset pricing model, it will give you --

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1 Q. Oh, okay.

2 A. That's a completely different method.

3 Q. All right. Thank you. Did you consider the use of a
4 beta coefficient to determine the reasonableness of your growth
5 estimation? I know you had indicated earlier that that was one
6 component of the capital asset -- what is the reference again?

7 A. The -

8 Q. The capital pricing model?

9 A. No, that only captures the --

10 Q. But did you --

11 A. That does not capture the growth factor. It captures
12 the risk factor.

13 Q. Okay.

14 A. And, no, I did not use the -- I did not use that method
15 at all.

16 Q. So --

17 A. I was just simply duplicating Dr. Nosari's calculations
18 and Mr. Styzens' calculations.

19 Q. Okay. Could you tell us what your understanding of the
20 term beta coefficient is?

21 MR. BOYD: Objection. Asked and answered.

22 HEARING OFFICER KNITTLE: Mr. Layman?

23 MR. LAYMAN: Well, I think he indicated that the beta
24 coefficient was a concept employed in the capital asset pricing

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1 model, if I -- I think I got that right. But I don't know if he
2 actually went into too much detail regarding the meaning of the

3 term beta coefficient or how it is used by finance experts -- I
4 am sorry -- finance experts or investors, either one.

5 HEARING OFFICER KNITTLE: I think the question has been
6 asked, as evidenced by your response, correct? Was that on your
7 examination that that definition was provided?

8 MR. LAYMAN: Well, I think I had --

9 HEARING OFFICER KNITTLE: I recall you asking the question,
10 so I am going to sustain the objection. You asked another -- a
11 couple other questions in there that I think would be not
12 questions that have been asked and answered.

13 MR. LAYMAN: Well, I don't want to go into too much detail
14 or prolong the proceedings any longer than what I have to, so I
15 guess that --

16 HEARING OFFICER KNITTLE: I appreciate that.

17 MR. LAYMAN: If I could be allowed just a little leeway on
18 getting the witness' response to that question, I will let it go
19 after that.

20 HEARING OFFICER KNITTLE: Mr. Boyd?

21 MR. BOYD: I think you sustained the objection. Asked and
22 answered.

23 HEARING OFFICER KNITTLE: Yes. As much as I would like to
24 get us out of here earlier, Mr. Layman, I think the question has

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1 been asked and answered.

2 MR. LAYMAN: Okay.

3 HEARING OFFICER KNITTLE: So I am sustaining the objection.

4 MR. LAYMAN: Okay.

5 Q. (By Mr. Layman) Well, let me ask you this with regard to
6 beta coefficient. Well, strike that. I think you have already
7 answered it.

8 Can you tell us, if Panhandle stock would be found to
9 closely follow the market, if it were measured by the use of a
10 beta coefficient, what could you tell us about -- what would that
11 tell you about Panhandle's return on equity?

12 A. There are two questions here, as I see them. One is
13 that this -- well, the first part of the question is this is a
14 regulated industry. So it is less risky than the average firm in
15 the stock market, which means that the beta value is going to be
16 less than one.

17 So its cost of equity is going to be less than the average,
18 the cost of equity of the average in the market. And what would
19 that be? You know, the BEN Model uses the average numbers in its
20 calculations, and they use anywhere from 10.1 to 10.2, something
21 like that.

22 Q. For a discount rate?

23 A. For a discount rate. And it reflects the average, so it
24 is going to be less than that.

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1 Q. I am sorry? What?

2 A. It is going to be less than the ten point some percent
3 number, I think, overall.

4 Q. Okay. But again --

5 A. The weighted average cost of capital, actually.

6 Q. But, again, I think consistent with your earlier
7 testimony, you did not derive or obtain a beta coefficient for
8 Panhandle Eastern during the period of time we are considering in
9 this case?

10 A. No, no.

11 Q. Okay. Can you maybe clarify for us how you used the
12 reference of Moody's Public Utility Manual in your earlier
13 testimony? I think you indicated that Moody was identified as a
14 source of authority with respect to your worksheet that you
15 created here?

16 A. Yes.

17 Q. Okay.

18 A. And the numbers I use from the industry.

19 Q. The numbers you used with respect to what?

20 A. All of the numbers here in my table, the second page
21 from the back in Exhibit 23, come from -- except for the growth
22 rate come from Moody's.

23 Q. Okay.

24 A. They provide each year in the public utilities manual

1 there is a page for the companies who form a part of the utility
2 group and Panhandle used to be one of them. And you can get all
3 of the information you want from them and each year the financial
4 statements are given. Those numbers are slightly different than
5 what you find in the annual reports.

6 Q. So the weighted average cost of capital would compare --
7 that you identified for each of the years would compare with what
8 was identified in Moody's or based on information that you
9 obtained from Moody's?

10 A. Based on information I obtained from Moody's.

11 Q. That weighted average cost of capital was the specific
12 outcome or the product of --

13 A. Absolutely.

14 Q. -- that information?

15 A. Yes.

16 Q. Okay. Thank you. Can you tell us whether you are aware
17 of whether Panhandle is a public utility, as defined by Moody's?

18 A. I don't know what the definition -- their definition is.

19 Q. Okay.

20 A. But they provide -- they assign, you know, maybe 15
21 pages each year to Panhandle.

22 Q. Sir, you don't know for certain whether or not S&P
23 treats Panhandle Energy as a member of the public utility or a
24 natural gas industry?

1 A. I think it is a utilities industry. So it is a natural
2 gas industry.

3 Q. Okay. In calculating the cost benefit using the prime
4 rate that you had discussed in your earlier testimony on
5 direct --

6 A. Uh-huh.

7 Q. -- is it fair to say that your position is that if you
8 use the prime rate for the cost of capital you would reduce this
9 cost by the tax benefit?

10 A. Yes.

11 Q. Okay. Does this not, then, assume that all investment
12 was made up by debt?

13 A. By debt?

14 Q. Uh-huh.

15 A. Well, some people assume -- I don't know what Mr.
16 Styzens was assuming, but some people assume that some companies
17 will go and borrow money from the bank and incur those
18 expenditures and make the investments, and some people may very
19 well do that.

20 Q. But you do not?

21 A. My position is that, as in the Roll Coater case, is that
22 some companies may, in fact, do that. On average this is not
23 done. Nobody tends to borrow money. Maybe a small copy might.
24 But the large companies just take money from their ongoing

1 operations and use the money.

2 Q. Well, isn't capital a major portion of investment
3 financing or, again, does that depend upon --

4 A. Which capital? Capital is the entire investment, debt
5 or equity.

6 Q. Okay. So how, exactly, does capital relate to
7 investment financing generally?

8 A. Like you see here --

9 Q. Is it a major part of it or --

10 A. The capital, total capital is -- it does not matter
11 where the money comes from. You construct a building or
12 construct a plant, it does not really matter. That's the
13 capital. And then the debt part of it is what is financed by
14 banks or whatever, bonds, banks. And that is what is reflected
15 in -- that is what we do in weighted average cost of capital.

16 Q. Okay. Thank you. I believe I really only have one
17 remaining subject matter to discuss with you, but that will
18 consist of a few questions.

19 A. Okay.

20 Q. So bear with me if you will. I think you indicated
21 earlier in your testimony, and correct me if I am mistaken, that
22 prior to your involvement in assisting Panhandle in this matter
23 you did not provide any consulting work to the gas pipeline
24 industry?

1 A. That's true.

2 Q. I think you even indicated in your deposition testimony
3 that you don't consider yourself an expert on FERC?

4 A. On FERC matters, no.

5 Q. Is that fair to say?

6 A. Yes, not in the manner that Bill Grygar spent his entire
7 lifetime, no.

8 Q. Okay.

9 A. Not at all.

10 Q. You are aware, are you not, that deregulation of the
11 natural gas pipeline industry has made the industry more
12 competitive?

13 A. Yes.

14 Q. Can you tell us generally when -- strike that. Can you
15 tell us what your understanding is of when this competitiveness
16 was sought to be fostered by FERC?

17 A. I believe it was in 1986, and they were given five years
18 as sort of a transition period.

19 Q. And that is what is referred to as the deregulation?

20 A. Yes, that is --

21 Q. Is that what the deregulation of the industry is
22 referred to as?

23 MR. BOYD: Objection to foundation.

24 THE WITNESS: The deregulation of --

1 HEARING OFFICER KNITTLE: Mr. Boyd?

2 THE WITNESS: I am sorry.

3 MR. BOYD: Mr. Singh, when there is an objection you should
4 stop talking.

5 HEARING OFFICER KNITTLE: Mr. Layman?

6 MR. LAYMAN: I don't know how to respond to that.

7 HEARING OFFICER KNITTLE: Can you rephrase the question,
8 please.

9 MR. LAYMAN: Yes, I believe I can.

10 Q. (By Mr. Layman) Is it your understanding that the
11 deregulation of the natural gas pipeline industry has made it
12 more competitive?

13 A. I don't know what you mean by deregulation.

14 Q. Well, there were a series of FERC orders beginning in
15 those -- in the late 1980s, I believe. Are you aware of --

16 A. You are referring to those, that part of the --

17 Q. Exactly.

18 A. I am not sure that is characterized as deregulation, but
19 anyway --

20 Q. I think the more appropriate term, to help you, might be
21 the unbundling of the services --

22 A. Sure, sure.

23 Q. -- that those orders addressed?

24 A. Sure. Okay. That made it more competitive? Is that

1 the question?

2 Q. Uh-huh.

3 A. Yes.

4 Q. You indicate in the witness report, and just for the
5 record -- hold on a moment, please. I believe it is Panhandle
6 Exhibit Number 26, and correct me if I am mistaken, but you
7 indicate in that report that the BEN Model is applicable to
8 companies operating in unregulated competitive markets; is that
9 correct?

10 A. Unregulated markets? Yes.

11 Q. You go on to indicate in the same paragraph, I believe,
12 that the gas pipeline industry is regulated by FERC and,
13 therefore, the BEN Model is not generally applicable to this
14 case; is that --

15 A. That is exactly what I say.

16 Q. Okay. Does that proposition also hold true for any type
17 of economic benefit analysis of any entity regulated by FERC?

18 A. In general, yes.

19 Q. Okay. So anyone regulated by FERC would --

20 A. Would be, yes, I think so.

21 Q. Okay.

22 A. There is some qualifications but anyway in general, yes.

23 Q. If FERC had been moving in the direction of making
24 industry more competitive, can you tell us how your opinion that

1 Panhandle operates in an uncompetitive market, how can that be
2 supported?

3 A. They are making it more competitive. That doesn't mean
4 they are totally unregulated. They are assured a return, and
5 they are bound to eventually get the return no matter what
6 happens. And let me -- I will let you continue.

7 Q. You will let me continue?

8 A. I will let you continue and ask me another question.

9 Q. Okay. Let the record reflect that is the first time
10 this has happened during this cross-examination.

11 Maybe this touches on the same point or question, but isn't
12 it true that the more competitive that an industry behaves, the
13 more likely it is that they will have some economic incentive to
14 not comply with the environmental regulations?

15 MR. BOYD: Again, I am just going to object to industry in
16 general.

17 MR. LAYMAN: Well, how about the natural gas pipeline
18 industry --

19 HEARING OFFICER KNITTLE: Sufficient, Mr. Boyd?

20 MR. LAYMAN: -- as point of reference.

21 MR. BOYD: I will withdraw my objection if he could
22 rephrase the question and relate it to the natural gas pipeline
23 industry.

24 MR. LAYMAN: Thank you.

1 THE WITNESS: Um --

2 MR. BOYD: I am sorry. Could --

3 HEARING OFFICER KNITTLE: Mr. Layman, would you --

4 MR. LAYMAN: Shall I repeat it?

5 HEARING OFFICER KNITTLE: Please.

6 Q. (By Mr. Layman) Isn't it true that the more competitive
7 that this industry behaves the more likely it is they will have
8 some economic incentive to not comply with environmental
9 requirements?

10 A. I have never evaluated this incentive. It depends on
11 the cost and it depends on the degree of regulation and in
12 general if you are saying, well, I am going to be more
13 competitive and I have to cut costs, it depends on what kinds of
14 costs you have to cut. There is a -- there may be some
15 incentive, but there are many, many factors, and it is something
16 that I have not evaluated.

17 Q. Okay. Is it your understanding that in order to foster
18 more competition in this industry that FERC has developed or
19 tried to develop a more market-based rate system as opposed to
20 the traditional rate-based system?

21 A. That is what I have read. They have tried to. I don't
22 know -- I have not read anything else beyond that as to how
23 successful they have been. Reading Mr. Breyer's book, they said
24 that actually what FERC is trying to do is what the market would

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1 do in terms of setting up the rates and ensuring a just and
2 reasonable return, and it says that it is not perfect, they way
3 they are going about doing it. You know, so how much difference
4 is going to be there between the market-based return rates versus
5 other rates, I don't know.

6 Q. Okay. Do you have any knowledge as to the rate
7 increases that have been sought by Panhandle since 1988?

8 A. What part of that? I mean, that's a very broad
9 question.

10 Q. Well, I guess I am asking you generally about the rate
11 increases that were sought by the company.

12 A. Percent wise?

13 Q. No, just how many?

14 A. Oh. I am aware of at least four here that we mentioned
15 in my paper.

16 Q. And you are aware, I trust, as to how many of those rate
17 increases were approved by FERC?

18 A. I think they were all bundled together and there was a
19 rate increase approved in 1994, and then it went through a
20 little -- I guess a little litigation process and finally
21 approved in 1997.

22 Q. Do you know how often Panhandle has actually increased
23 its rates?

24 A. I am sorry?

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1 Q. Do you know how often the company has actually increased
2 their rates to the level authorized by FERC?

3 A. In what period?

4 Q. For any of the periods that we are looking at, 1988
5 through 1996?

6 MR. BOYD: Mr. Hearing Officer, I am just going to object
7 as to foundation. He had Mr. Grygar here who was the person to
8 ask these questions to, and he has not laid any foundation that
9 Mr. Singh would have any knowledge of any of these questions.

10 MR. LAYMAN: I guess that I would assume, based on the
11 admission of the report pertaining to FERC, that the witness has
12 relied upon the expertise of Mr. Grygar in this area, and at
13 least has some knowledge as to what Panhandle was doing during
14 that period of time with respect to its rate increases. I think
15 it has a direct bearing, too, on the underpinnings of his
16 opinions.

17 HEARING OFFICER KNITTLE: All of that may be so, but I am
18 going to sustain the objection until the appropriate foundation
19 is laid.

20 MR. LAYMAN: Okay.

21 Q. (By Mr. Layman) Mr. Singh, could you tell us what your
22 understanding is with respect to the rate increases that were
23 sought by the company with FERC beginning in 1988?

24 A. I don't know what you are asking for. I mean, in those

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1 rate increases there is many, many things you can ask about. You
2 said general understanding? I know that they filed the rate
3 increases, and I have seen -- I have read discussions of it in
4 FERC opinions, and I have looked at some data, you know, as to
5 what the size of -- I have looked at some data regarding the size
6 of those requested rate increases.

7 Q. Did you look and review the FERC opinions?

8 A. I read all of the FERC opinions, yes.

9 Q. Okay. So you were able to identify the settlement rate
10 for those various orders?

11 A. I am sorry? Able to identify --

12 Q. Whether or not the company had obtained its requested
13 rate increase or whether or not the rate was settled or --

14 A. I think that --

15 Q. -- resolved short of the requested rate?

16 A. Well, as Mr. Grygar testified yesterday -- well, he
17 didn't testify to this. But I can say that there is a little
18 game being played in requesting these rates. Everybody knows
19 that they are not going to get what they want, so they ask for
20 more than what they are going to be rewarded. So each time that
21 you go in for a rate increase, you are going to get less than
22 what you asked for. So it is not a surprise that you won't get
23 what you want. It doesn't mean anything.

24 Q. Well, then I will ask this question again with respect

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1 to how Panhandle would have behaved following its request for
2 rate increases during that period of time. Do you know whether
3 or not they went ahead and increased their rates to match that
4 level that was approved by FERC?

5 A. I know that the rates have actually decreased
6 substantially.

7 THE COURT REPORTER: I am sorry?

8 MR. LAYMAN: I am sorry? What did you say?

9 THE WITNESS: Have decreased substantially.

10 THE COURT REPORTER: Have decreased --

11 THE WITNESS: Have decreased, decreased over the previous
12 rates.

13 HEARING OFFICER KNITTLE: Have decreased substantially.

14 Q. (By Mr. Layman) Is it fair to say that increased
15 competition in this industry may be one reason why Panhandle may
16 not have been able to historically increase its rates?

17 MR. BOYD: I am sorry. I have to object to foundation
18 here, too.

19 HEARING OFFICER KNITTLE: Mr. Layman?

20 MR. LAYMAN: I guess my response would be that we laid the
21 foundation in earlier questioning on his understanding of FERC,
22 his reading of the opinions of the orders provided by FERC.

23 MR. BOYD: What he is asking about is the actual rate that

24 Panhandle charges customers. There has been absolutely no

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1 foundation about that.

2 HEARING OFFICER KNITTLE: Darlene, could you read back the
3 question.

4 (Whereupon the requested portion of the record was read
5 back by the Reporter.)

6 HEARING OFFICER KNITTLE: I am going to overrule that
7 objection.

8 Sir, do you recall the question?

9 THE WITNESS: I think what Mr. Grygar testified to
10 yesterday is that essentially there were different -- the number
11 of companies supplying gas in an area were increasing. So if
12 they reduced their rates, you reduced your rates. What I would
13 like to add to that is that leaves the implication that somehow
14 that they were not going to be able to pass this cost along. But
15 the fact of the matter is that the company had gone through major
16 restructuring and had become far more efficient and cut out all
17 of the fat that there was. And, now, which costs would you
18 actually cut? Not the environmental costs. You are going to cut
19 other costs. And as -- I don't -- I have not seen the numbers,
20 but Panhandle's pipeline operation, I believe, were very
21 successful during this period, had been very successful during
22 this period, the pipeline transmission operations. And that's
23 because they had -- it had taken them some time, but they have

24 become far more efficient.

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1 So, you know, they would -- they would have been required
2 to -- they would have spent that money in 1987, and FERC would
3 have approved the high rate, but the facts of the market are
4 that -- are supported by some data that all pipeline companies,
5 not just them, have moved to cut their costs substantially.

6 Q. Well, I guess the point I was getting at earlier is if
7 they are not able to increase their rates, doesn't that mean that
8 Panhandle was not really operating in the type of uncompetitive
9 market that you described in your report?

10 A. In 1987 that was the start of the period at that point.
11 That is what we are talking about. The incentives were very
12 different then than maybe they are today.

13 Q. What about the remainder of the period?

14 MR. BOYD: I am just going to object to the form. I am not
15 sure what he means by remainder of the period.

16 THE WITNESS: I --

17 MR. BOYD: Mr. Singh, I am sorry. There has been an
18 objection. Please be quiet.

19 HEARING OFFICER KNITTLE: Mr. Layman, are these all part of
20 the five minutes worth of questions that we had on one particular
21 area?

22 MR. LAYMAN: I don't think I indicated it would be five

23 minutes. I said that I had one remaining subject matter and that
24 I had several questions.

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1 HEARING OFFICER KNITTLE: Right. Well, you had indicated
2 that --

3 MR. LAYMAN: And the record will reflect it.

4 HEARING OFFICER KNITTLE: The record will indicate that we
5 would be done at 4:25 or 4:30. That much I know.

6 MR LAYMAN: I am --

7 HEARING OFFICER KNITTLE: So whether or not I hit the five
8 minutes or not on the nail, I know there has been some
9 indications here, both on and off the record, that we would be
10 finishing up relatively quickly here. If we are not, I just want
11 to know so that we have --

12 MR. LAYMAN: I am attempting to wrap it up. I certainly
13 don't want to have to have the witness come back before we close
14 with him today.

15 MR. BOYD: Well, he will not come back. We will finish
16 today and --

17 HEARING OFFICER KNITTLE: Hold on. Hold on. I am the one
18 who decides what happens here, Mr. Boyd.

19 MR. BOYD: Mr. Knittle, with all due respect, these are
20 questions that are beyond the foundation laid for this witness.
21 They are questions that should have been posed to Mr. Grygar if
22 they were going to be asked. Some of them were posed to Mr.

23 Grygar.

24 MR. LAYMAN: I think that --

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1 MR. BOYD: To ask this witness these questions where he
2 lacks the foundation and he is possibly speculating, I think is
3 erroneous.

4 HEARING OFFICER KNITTLE: Well, if there is an objection to
5 any certain question, please bring it up and we will rule on it,
6 as you have been doing. That will be our course of action on
7 that.

8 MR. LAYMAN: And for the record, I probably have seven or
9 eight questions remaining.

10 HEARING OFFICER KNITTLE: All right. Did we have an
11 objection or was this just a spurious outburst by me?

12 MR. BOYD: There was an objection, but I will withdraw it
13 if Mr. Layman rephrases the question.

14 HEARING OFFICER KNITTLE: Mr. Layman, will you rephrase the
15 question, please.

16 MR. LAYMAN: I certainly will. If I can remember what it
17 was.

18 Q. (By Mr. Layman) If it is true that Panhandle was not
19 able to increase its rates based on some of the considerations
20 that you mentioned in your earlier testimony, doesn't this mean
21 that Panhandle was not really operating in that type of a

22 noncompetitive market that you described in your report?

23 A. No, it still was regulated. You know, if somebody says
24 do what you want to do, but you are assured of whatever, a 10 or

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1 12 or 15 percent return, go ahead and do whatever you want to do.
2 I am assured. I feel confident that -- so it still was operating
3 in a regulated market. Not only that, but Panhandle still had to
4 set some minimum rates, too. So it is not like you are
5 completely competitive. You know, there is some competition
6 there.

7 Q. Okay.

8 A. I should also add -- I want to add one thing. You are
9 asking me questions that are really beyond my area of expertise,
10 and I should tell you that a man with little knowledge is very
11 dangerous.

12 MR. BOYD: Sir -- I am sorry. Never mind. Go ahead.

13 Q. (By Mr. Layman) Irrespective of that, though, it is fair
14 to say that you based -- you based -- your discussions with Mr.
15 Grygar -- well, strike that.

16 Irrespective of that, you have set out some assumptions
17 that you used in reaching your opinions in this expert report
18 regarding the inapplicability of economic benefit to FERC
19 regulated industry; isn't that right?

20 A. In general, yes. On that --

21 MR. BOYD: Mr. Singh --

22 THE WITNESS: Yes?

23 MR. BOYD: I believe you answered his question. If you
24 would just answer his question and we can move on, and then we

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1 will get out of here much sooner. Please.

2 HEARING OFFICER KNITTLE: Mr. Layman?

3 MR. LAYMAN: I don't know to respond to that. There was a
4 question posed and the witness was answering it. So what is the
5 basis for the objection?

6 HEARING OFFICER KNITTLE: Mr. Boyd, do you have anything?

7 MR. BOYD: No, just withdraw it.

8 HEARING OFFICER KNITTLE: I am going to want to -- if you
9 think the witness has gone beyond the scope of the question, or
10 if he is not responding to the question, please feel free to
11 object and then we will ask him to stop, and if Mr. Layman
12 doesn't agree then --

13 MR. BOYD: I appreciate that.

14 HEARING OFFICER KNITTLE: Mr. Layman?

15 MR. LAYMAN: I just --

16 HEARING OFFICER KNITTLE: You can ask a follow-up.

17 MR. LAYMAN: Okay. Thank you.

18 Q. (By Mr. Layman) I think I will go in this direction, if
19 you will. Are you aware, Mr. Singh, of any instance in which
20 FERC has found environmental expenditures to be unreasonable?

21 A. I have not done an independent investigation. It is
22 based on my conversations with Mr. Grygar.

23 Q. I think in your report you indicated that environmental
24 expenditures were generally considered reasonable and, therefore,

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1 would be approved by FERC; is that right?

2 A. That's right.

3 Q. Is it possible that where a company does not comply for
4 a number of years and they knowingly don't comply or they
5 negligently don't comply, that FERC would find those costs
6 unreasonable?

7 MR. BOYD: Again, I am going to object to the lack of
8 foundation. The witness has already testified that this is
9 beyond his knowledge.

10 HEARING OFFICER KNITTLE: Mr. Layman?

11 THE WITNESS: There is no reason to --

12 HEARING OFFICER KNITTLE: Sir.

13 MR. BOYD: Sir, please.

14 THE WITNESS: I am sorry.

15 MR. BOYD: Sir, if I have an objection, please wait until
16 it is ruled on. Thank you.

17 HEARING OFFICER KNITTLE: Mr. Layman?

18 MR. LAYMAN: I guess my response is if the witness believes
19 that it is beyond his scope of expertise, he will tell me so. He
20 indicated that he generally understood that environmental

21 expenditures were something that would be generally approved by
22 FERC.

23 HEARING OFFICER KNITTLE: You understand that it is Mr.
24 Boyd's job to object if he thinks it is beyond the witness'

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1 expertise.

2 MR. LAYMAN: Absolutely.

3 HEARING OFFICER KNITTLE: The witness is under no
4 obligation to tell you --

5 MR. LAYMAN: Absolutely, and I guess that --

6 HEARING OFFICER KNITTLE: -- (continuing) that it is beyond
7 his scope of his knowledge. So I am going to sustain this
8 objection.

9 Q. (By Mr. Layman) You indicate in your report, Mr. Singh,
10 that gas pipelines and other regulated businesses indeed face
11 risk in their business operation; is that correct?

12 A. Yes.

13 Q. Specifically, I think you say that they cannot afford to
14 spend money that might be deemed by FERC to be unreasonable at a
15 later date; is that right?

16 A. That's right.

17 Q. Okay. Is there any risk to a company that does not
18 spend money, such as where they delay compliance with
19 environmental requirements, and then find out later that FERC

20 will not approve the costs as reasonable?

21 MR. BOYD: Objection to the form in terms of companies
22 again.

23 HEARING OFFICER KNITTLE: Mr. Layman, are you willing to
24 limit it to this particular company?

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1 MR. LAYMAN: How about the natural gas pipeline industry?

2 HEARING OFFICER KNITTLE: You can answer the question.

3 THE WITNESS: I have already answered this question or this
4 form of this question in another form. My knowledge is based on
5 my conversations with Mr. Grygar, and he said that -- he said --
6 this is what he said. Is that the objection to cost comes from
7 people who are going to pay the costs, who pay for the gas. And
8 he had not come across anywhere where the people buying the gas
9 had objected to those environmental costs being included in the
10 rate-making proceedings.

11 Q. (By Mr. Layman) Okay. I just have one or two last or
12 remaining questions.

13 A. Okay.

14 Q. Are you aware of whether the U.S. EPA has ever addressed
15 the argument that you presented in your expert report about the
16 inapplicability of economic benefit to a FERC related or -- well,
17 a FERC related company?

18 A. No, I am not aware of it, no.

19 MR. LAYMAN: Okay. I think that's all I have.

20 HEARING OFFICER KNITTLE: Mr. Boyd?
21 MR. BOYD: Just a second.
22 HEARING OFFICER KNITTLE: Let's go off the record.
23 (Discussion off the record.)
24 HEARING OFFICER KNITTLE: All right. We are back on the

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1 record.

2 Mr. Boyd, your witness on redirect.

3 REDIRECT EXAMINATION

4 BY MR. BOYD:

5 Q. Mr. Singh, on cross-examination Mr. Layman was talking
6 about competition, increased competition. If a company is facing
7 more competition, wouldn't it want to avoid losses or decisions
8 that would lead to losses?

9 MR. LAYMAN: Objection. Leading.

10 HEARING OFFICER KNITTLE: Sustained.

11 Q. (By Mr. Boyd) If a company is facing increased
12 competition -- well, strike that. Let me refer you back to
13 Panhandle Exhibit 23.

14 A. Okay.

15 Q. Go to three pages from the -- to four pages from the
16 end. Do you see that? This is where you calculated the growth
17 factor?

18 A. Yes.

19 Q. Okay. You calculated the 2.07 percent growth factor?

20 A. Yes.

21 Q. Do you believe the 2.07 percent growth factor that you
22 calculated is accurate for this period of time for Panhandle?

23 A. Yes.

24 Q. And why do you believe that?

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1 A. It is reasonable because, as I mentioned, that given the
2 decrease in dividends and the depressed stock price of the
3 company in general, and some of the adjustments that Panhandle
4 had to make to its operations and some of the losses that were
5 suffered, that during that period the growth of stock was flat,
6 if nothing -- was very low, if not there at all. And this number
7 is still one half or 40 percent of what FERC, in normal
8 conditions, allows anyway. So for that period it is a very
9 reasonable number.

10 THE COURT REPORTER: I am sorry. I didn't hear the last
11 few words.

12 THE WITNESS: That FERC allows in normal cases. This
13 number, the 2.07 percent number is about 40 percent of the number
14 that FERC allows in normal cases.

15 Q. (By Mr. Boyd) So why does that matter and why does this
16 support your 2.07 percent number?

17 A. Excuse me? Why?

18 Q. Why does the five percent number that FERC allows in

19 some circumstances support your 2.07 percent number?

20 A. Only because those are sort of normal average firms.

21 Whereas here the condition was that the company was losing money

22 and the dividends were being cut, and it is not possible at all

23 that the stock value would go up during that period. So I think

24 it is a very reasonable number.

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1 MR. BOYD: Okay. That's all I have.

2 HEARING OFFICER KNITTLE: Mr. Layman, a recross?

3 MR. LAYMAN: No thank you.

4 HEARING OFFICER KNITTLE: All right. Sir, thank you. You
5 may step down.

6 THE WITNESS: Thank you.

7 (The witness left the stand.)

8 HEARING OFFICER KNITTLE: We will stay on the record. We
9 are not calling any other witnesses today, right, Mr. Boyd?

10 MR. BOYD: No, sir.

11 HEARING OFFICER KNITTLE: All right. We want to talk about
12 what we have left in terms of time.

13 MR. BOYD: May I suggest that we convene next week?

14 HEARING OFFICER KNITTLE: I want to do this on the record
15 here now.

16 MR. BOYD: Okay.

17 HEARING OFFICER KNITTLE: I want an estimate as to how long

18 this is going to take in light of the fact that this hearing has
19 gone so much further than the original estimate that we did in
20 the prehearing telephone status conference.

21 So, Mr. Boyd, how many witnesses do you intend to call for
22 the remainder of your case?

23 MR. BOYD: At this time we have five additional witnesses,
24 and I would suspect that they will take two days.

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1 HEARING OFFICER KNITTLE: Who are the five witnesses?

2 MR. BOYD: They are Sabino Gomez, Bruce Dumdi, John Stefan,
3 Dave Kolaz, and Jamie Wade, W-A-D-E.

4 HEARING OFFICER KNITTLE: Okay. I don't know if --

5 MR. BOYD: And they have all been previously identified.

6 HEARING OFFICER KNITTLE: Yes. Mr. Layman, Ms. Carter, up
7 to this point, of course, there still may be some rebuttal that
8 comes from the remaining five witnesses. How many rebuttal
9 witnesses do you intend to call?

10 MR. LAYMAN: In our rebuttal case?

11 HEARING OFFICER KNITTLE: Right.

12 MR. LAYMAN: I would anticipate no more than three.

13 HEARING OFFICER KNITTLE: Do you have identities for those
14 people?

15 MR. LAYMAN: Two of the three I think we can identify at
16 this time. It will be either -- well or both, Gary Styzens and
17 Dr. Nosari. I am going to leave open the possibility that we may

18 try to obtain the services of another witness that we have not,
19 as of this time, identified or disclosed. I don't know if I can
20 say anymore at this point without it being simply mere
21 conjecture.

22 HEARING OFFICER KNITTLE: How many days do you anticipate
23 for your three witnesses? Or up to this point? And you, of
24 course, realize I am not going to prohibit you from adding

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1 another witness based on any of the witnesses that come from this
2 point forward.

3 MS. CARTER: I think I want to say a day and a half just to
4 be on the safe side.

5 MR. LAYMAN: Yes, I think that is fair.

6 HEARING OFFICER KNITTLE: Okay. We have two days for you,
7 Mr. Boyd?

8 MR. BOYD: Yes, that is what I am estimating at this time.

9 HEARING OFFICER KNITTLE: Well, I am not going to allow
10 this to go past whatever time we set again. I can't control
11 them, because they have rebuttal that is, at this point,
12 dependent upon you and what you put on in your case-in-chief. I
13 am going to give you a set amount of days and after that you are
14 out of luck.

15 MR. BOYD: Well, I will not ask for more than two days.

16 HEARING OFFICER KNITTLE: Okay. Then you will have your

17 two days. And then you will have your two days, right? Or if
18 there is something that comes up in the interim, I understand
19 that. You know, I want to give you a fair opportunity to put on
20 your case, just like I want to give Mr. Boyd a fair opportunity
21 to put on his case.

22 MS. CARTER: Yes.

23 MR. LAYMAN: Right.

24 HEARING OFFICER KNITTLE: To this point, though, Mr. Boyd

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1 has had about three -- this will be about five days almost, if
2 you take the two days, four and three-quarters days for your
3 case-in-chief.

4 MR. BOYD: I don't think -- oh, four and three-quarters at
5 the end?

6 HEARING OFFICER KNITTLE: Right. If we add two days to
7 what we have already had -- we have had almost three days on your
8 case-in-chief.

9 MR. BOYD: Well, we finished the cross-examination of Mr.
10 Nosari late in the morning on Wednesday.

11 HEARING OFFICER KNITTLE: Well, I think it was a little
12 earlier than that. But, regardless, we have had enough time that
13 I think that the case-in-chief for the respondent can be safely
14 and fairly limited to another two days.

15 MR. BOYD: I must say that I have been surprised by the
16 length of cross-examination by the State, and that it has

17 approximated the length of my direct examination of witnesses.

18 HEARING OFFICER KNITTLE: Well, understood. I have to say
19 that I have been surprised by the length of both direct and
20 cross-examinations on some of these issues, but that is not my
21 decision to make. That is your decisions to make for your
22 respective cases.

23 MR. BOYD: Mr. Knittle, if I may, with respect to this
24 third as yet to be identified potential rebuttal witness, I would

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1 like to have that witness identified at some point in time, and I
2 might also add that discovery was closed in this matter a long
3 time ago. The statements and opinions of our witnesses have been
4 disclosed for months and months. I think it would be
5 inappropriate to give the State an additional month or two to
6 prepare rebuttal witnesses after we close here today, given the
7 fact that we have had so much time since the close of discovery
8 in this case.

9 HEARING OFFICER KNITTLE: Right. I understand your
10 feelings, Mr. Boyd. There is nothing I can do about it until
11 they get to their case in rebuttal and tell me who they are going
12 to use as their rebuttal witnesses. They are under no
13 obligation, I think, as you know, to tell me now who they want to
14 use in rebuttal.

15 MR. BOYD: Right.

16 HEARING OFFICER KNITTLE: Especially in light of the fact
17 that you are not done with your case-in-chief. If you were done
18 with your case-in-chief, I could make them tell me right now.

19 MR. BOYD: I understand that. I mean, in a particular
20 relation to the witnesses that have already testified. Mr. Singh
21 has prepared his report and it was submitted in December of 1999,
22 for instance. Mr. Gomez, the same thing. Mr. Dumdi, the same
23 thing. The reports were all submitted in December of 1999. They
24 have had plenty of time to identify who their witnesses are going

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1 to be. It would be inappropriate, I think, to give them a second
2 chance at discovery without giving us the opportunity to conduct
3 some additional discovery on that particular person.

4 HEARING OFFICER KNITTLE: Right. Once again, although I
5 understand your comments, I can't do -- my hands are pretty much
6 tied at this point in time. I don't think I can make them
7 disclose any of their rebuttal witnesses until your case-in-chief
8 is done. I can't imagine there is anything I can do about this.
9 It would be in the -- it would be like a preemptive ruling on my
10 behalf before I have the necessary information or actually the
11 facts before me to rule on. I am not going to do that. If
12 something like that comes up, we will take it up at the
13 appropriate time and place on the record.

14 MR. BOYD: Thank you.

15 MS. CARTER: I don't want to interrupt if you have

16 additional issues.

17 HEARING OFFICER KNITTLE: No, feel free.

18 MS. CARTER: On Wednesday we were provided a copy of a
19 motion by Counsel for respondent, and I am unclear in terms of
20 what the time period is in which we should be responding. Is
21 this something that should be attached to our brief and response
22 to this entire matter, or how does the -- oh, never mind. I
23 guess this doesn't need to be on the record. My co-counsel and I
24 are not communicating very well.

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1 HEARING OFFICER KNITTLE: Well, unfortunately, it is on the
2 record. We can't cut it off halfway.

3 MS. CARTER: Okay.

4 HEARING OFFICER KNITTLE: Unless there is an agreement for
5 an extension of time, then you have seven days from --

6 MR. LAYMAN: I would hope, even at this late hour, that my
7 discussion with Mr. Boyd earlier would support at least a seven
8 or a ten day extension, and then I think based on our earlier
9 discussion we were prepared to discuss simply waiving or allowing
10 both the State and Panhandle to address the motion as to briefs.
11 I think that is something Mr. Boyd wants some more time to
12 consider.

13 MR. BOYD: I have no problem with the seven day extension.
14 We can spend next week, while we are fresher, thinking about how

15 to handle that issue.

16 HEARING OFFICER KNITTLE: You are granting -- you are
17 agreeing to a seven day extension right now?

18 MR. BOYD: I am agreeing to it. Not granting it.

19 HEARING OFFICER KNITTLE: Right. I will grant it.

20 MR. LAYMAN: May I ask, rather than the seven, to obtain
21 the ten.

22 MR. BOYD: Ten is fine.

23 MR. LAYMAN: From Wednesday to that next Friday -- it would
24 be a week from next Friday.

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1 MR. BOYD: That's fine.

2 HEARING OFFICER KNITTLE: Today is the 22nd, so that would
3 be October 6th. Mr. Layman?

4 MS. CARTER: Yes.

5 MR. LAYMAN: I believe so.

6 MS. CARTER: I will speak for him.

7 HEARING OFFICER KNITTLE: All right. I will grant that.

8 MR. BOYD: Do we want to talk about dates for a second
9 go-round?

10 HEARING OFFICER KNITTLE: How about next week? I am in all
11 week. We could do it on Wednesday.

12 MR. LAYMAN: What are we referring to?

13 HEARING OFFICER KNITTLE: Oh, Mr. Boyd suggested that we
14 set up a time to talk about setting up for the next --

15 MR. LAYMAN: Oh, I thought you were setting up a time for
16 the hearing itself.

17 HEARING OFFICER KNITTLE: No. Is next Wednesday okay,
18 though, in terms of a telephone status conference?

19 MS. CARTER: That's fine with the State.

20 MR. LAYMAN: I think that's fine.

21 HEARING OFFICER KNITTLE: How about you, Mr. Boyd?

22 MR. BOYD: It looks fine to me. What time?

23 HEARING OFFICER KNITTLE: I have the whole day open. What
24 is better for you? Does the afternoon around 2:00 sound good?

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1 MR. LAYMAN: That is fine.

2 MR. BOYD: The afternoon is perfect.

3 HEARING OFFICER KNITTLE: Okay. We will set this at 2:00.

4 All right. That's all I have got. Once again, I want to note
5 that there are no members of the public. Oh, there is Ms. Beth
6 Pitrolo. Ms. Pitrolo, do you want to provide public comment here
7 today in your capacity as a citizen of the State of Illinois?

8 MS. PITROLO: No thank you, Mr. Hearing Officer.

9 HEARING OFFICER KNITTLE: Okay. Thank you. Well, other
10 than that, there are no members of the public.

11 Yes, Mr. Layman.

12 MR. LAYMAN: I have one remaining question, and it pertains
13 to the preparation of the transcript. I trust that there won't

14 be any preparation of the transcript for this hearing until the
15 hearing is closed whenever we reschedule, or how is that going to
16 work with a continued hearing?

17 HEARING OFFICER KNITTLE: Usually we get the transcripts
18 now like in seven to ten days, or whatever the -- eight business
19 days. What doesn't happen is I am not going to -- I can't do my
20 hearing report, the credibility determination and the exhibit
21 list, until we get all of the hearing done.

22 MR. LAYMAN: Of course.

23 HEARING OFFICER KNITTLE: But you should get it. Work out
24 what you need with Darlene or talk to me about a copy of the

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1 transcript.

2 MR. LAYMAN: Okay.

3 HEARING OFFICER KNITTLE: I did want to note -- I don't
4 think I finished about no members of the public being present.
5 If they were here, they would be welcome and allowed to give
6 public comment. Since that is not the case -- any members of the
7 public? No answer.

8 So this hearing is ended. Thank you all very much for your
9 time.

10 MR. LAYMAN: Thank you.

11 MR. BOYD: Thank you.

12 MS. CARTER: Thank you.

13 (Hearing Exhibits retained by Hearing

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Officer Knittle.)

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3 COUNTY OF MONTGOMERY)

C E R T I F I C A T E

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I, DARLENE M. NIEMEYER, a Notary Public in and for the
County of Montgomery, State of Illinois, DO HEREBY CERTIFY that
the foregoing 198 pages comprise a true, complete and correct
transcript of the proceedings held on the 22nd of September A.D.,
2000, at 600 South Second Street, Springfield, Illinois, in the
matter of People of the State of Illinois v. Panhandle Eastern
Pipe Line Company, in proceedings held before John C. Knittle,
Chief Hearing Officer, and recorded in machine shorthand by me.

13 IN WITNESS WHEREOF I have hereunto set my hand and affixed
14 my Notarial Seal this 17th day of October A.D., 2000.

15

16

17

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19 Notary Public and
20 Certified Shorthand Reporter and
21 Registered Professional Reporter

22

23 CSR License No. 084-003677
24 My Commission Expires: 03-02-2003

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