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Title:

In the matter of Interview of David M. Czufin

Docket Number: 2-94-036

Location:

Crystal River, Florida

Date:

November 29, 1995

Work Order No .: NRC-429

Reviewed on 12/19/95 David M. S

Pages 1-37

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:	UNITED STATES OF AMERICA
:	2 NUCLEAR REGULATORY COMMISSION
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4	OFFICE OF INVESTIGATIONS
5	INTERVIEW
6	x
7	IN THE MATTER OF: :
8	INTERVIEW OF : Docket No.
9	DAVID M. CZUFIN : 2-94-036
10	1
11	x
12	Wednesday, November 29, 1995
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14	Crystal River Plant
15	Administration Building
16	.5760 W. Power Line Street
17	Crystal River, Florida
18	
19	The above-entitled interview was conducted at
20	1:38 p.m.
21	BEFORE :
22	JAMES DOCKERY Senior Investigator
23	JIM VORSE Senior Investigator
24	CURT RAPP Reactor Engineer
25	Reviewed on 12/19/95 Dail M. Suffi

1 APPEARANCES:

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

2 MR. DOCKERY: For the record today's date is 3 November the 29th, 1995. The time is approximately 1:38 4 p.m.. My name is James D. Dockary. I'm a Senior 5 Investigator with the NRC Office of Investigations.

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6 During this proceeding, which is being recorded 7 for transcription, the NRC Office of Investigations will 8 conduct an interview of David M. Czufin. This interview 9 pertains to OI investigation number 2-94-036. The 10 location of this interview is the Administration Building, 11 Crystal River Nuclear Plant.

12 There are others in attendance at this interview 13 and I will ask them to identify themselves and their 14 affiliations, starting with Mr. Rapp.

MP. RAPP: My name is Curt Rapp, R-A-P-P. I am a Reactor Inspector with Region II NRC in Atlanta, Georgia.

MR. VORSE: My name is Jim Vorse. I'm an
Investigator with the NRC Office of Investigations,
Atlanta, Georgia.

MR. STENGER: Dan Stenger, attorney with Winston
 & Strawn in Washington, D.C.

23 MR. WEINBERG: I'm "Sandy" Weinberg with 24 Zuckerman, Spaeder in Tampa. And both Mr. Stenger and I 25 are here on behalf of Florida Power.

1 MR. DOCKERY: Mr. Czufin, would you raise your 2 right hand, please. THE WITNESS: (Complies.) 3 4 Whereupon, DAVID M. CZUFIN, 5 being first duly sworn by the Investigator, was examined б and testified as follows: 7 DIRECT EXAMINATION 8 9 MR. DOCKERY: Would you state your full name for 10 the record, please. 12 THE WITNESS. David Miller Czufin. 12 MR. DOCKERY: Okay. And your date of birth and 13 Social Security number. Social Security TC THE WITNESS: 14 number is 15 16 MR. DOCKERY: - Okay. Before we went on the record here today Mr. Vorse and I identified ourselves to 17 you as investigators with the NRC Office of 18 Investigations. Is that correct? 19 20 THE WITNESS: That's correct. MR. DOCKERY: And I also provided you with a 21 22 copy of Section 1001 of Title 18 of the United States Code and explained that that is applicable during this 23 proceeding. Do you understand that? 24 25 THE WITNESS: Yes, I do.

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MR. DOCKERY: Okay. Mr. Czufin, what is your current position?

3 THE WITNESS: My current position is mechanical4 shop manager.

5 MR. DOCKERY: And what -- Since most of the 5 events that we're considering here occurred during 1994 7 what was your position at that time?

8 THE WITNESS: From January through August 13th, 9 1994, I was primary systems engineering supervisor. 10 Starting August 15th, 1994, I became mechanical shop 11 manager.

MR. DOCKERY: Okay. Mr. Czufin, are you a degreed engineer?

14 THE WITNESS: Yes, I am.

MR. DOCKERY: Mr. Rapp, I'll let you take it up from here if you're ready.

17 MR. RAPP: Okay, sure.

18 I want to kind of like go back over the history, 19 or your understanding of the history of the Curve 8 20 hydrogen overpressure issue. And if you could just kind 21 of talk about that.

THE WITNESS: I really don't know -- I we never THE WITNESS: I really don't know -- I we never THE WITNESS: I really don't know -- I we never THE WITNESS: I really don't know -- I we never THE WITNESS: I really don't know -- I we never THE WITNESS: I really don't know -- I we never THE WITNESS: I really don't know -- I we never THE WITNESS: I really don't know -- I we never THE WITNESS: I really don't know -- I we never THE WITNESS: I really don't know -- I we never THE WITNESS: I don't know what Curve 8 is I do know THE WITNESS: I don't know what Curve 8 is I do know THE WITNESS: I don't know what Curve 8 is I do know THE WITNESS: I would say it's the issue of the

1 potential to have gas binding in the makeup pump suction.

2 MR. RAPP: Okay. Were -- Since you were in the 3 primary system engineering area were you aware of the 4 operators concerns about the response of plant systems, 5 specifically the makeup tank relative to the information 6 provided by Engineering?

7 THE WITNESS: You mean back in '94? 8 MR. RAPP: '94, right.

9 THE WITNESS: Yes and no. I -- I was familiar 10 with the problem that occurred when SP-630 was performed. 11 That is the SP during the last refueling outage where the 12 makeup pumps cavitated.

13 And I know that there was a -- a concern that 14 that was correlated to hydrogen. And I know that Mr. 15 Hinman spent -- who was the system engineer, Pat Hinman --16 he spert several weeks trying to prove or disprove that 17 theory. And based on what he came up with and the 18 investigation he did, he concluded, and I agreed with it 19 that it was not related.

20 MR. DOCKERY: Did he work for you at the time?
21 THE WITNESS: Yes, he did.

22 MR. RAPP: How did you come to that conclusion? 23 THE WITNESS: Based on reviewing what he had 24 written up and it was also design engineers that had 25 reviewed what he had -- his synopsis of what he had done,

1 his investigation, and -- based on that review.

2 MR. RAPP: Who were the design engineers 3 involved?

4 THE WITNESS: Terry Austin and -- that's the 5 only one that comes to mind right now.

6 MR. DOCKERY: Mr. Czufin, so you recall at what 7 point date wise you -- that conclusion was reached and you 8 agreed with it? To the best of -- I realize it's been a 9 while.

10 THE WITNESS: It -- the -- The refueling outage 11 ended, it had to be within about 30 days of the end of the 12 last refueling outage. Which would have been early July 13 -- or late July or early August, I believe. Refueling 14 outage ended, oh, it ended in June. So it might have been 15 a little earlier than that.

MR. RAPP: What was -- oh, I'm sorry. Go ahead. MR. DOCKERY: Possibly as early as the beginning of August?

19 THE WITNESS: Yes, and this is the SP-630. This 20 is SP-630, which is the -- when we attempted to run the 21 makeur pumps during the outage there was evidence of 22 cavitation during that performance of that test. And --23 MR. DOCKERY: And -- go ahead. 24 THE WITNESS: And the operators were -- voiced 25 concerns that that was related to the bigger issue of

1 potentially get hydrogen into the makeup system.

2 MR. RAPP: When the operators -- Following 3 SP-630 when this concern was raised by the Operations 4 staff or particular operators, was Engineering aware of 5 the safety significance of the issue?

6 THE WITNESS: Yes. Yes. Engineering has been 7 aware that the fact that if you get hydrogen or gas 8 binding in a safety related pump, that that is a 9 significant phenomena.

MR. RAPP: How did Engineering -- or how was the conclusion reached that the cavitation of the makeup pumps was not related to the hydrogen overpressure issue?

13 THE WITNESS: It was based on data that was 14 pulled from the REDAS system and it was based on 15 essentially the collection of data and plant. Based on 16 the data that was there and the investigation that was 17 performed. And it was documented in a problem report.

18 MR. RAPP: Documented in which problem report? 19 THE WITNESS: I don't know the number. The 20 whole event had a problem report and it's very thoroughly 21 documented in that problem report.

22 MR. RAPP: Would it be 94149?

23 THE WITNESS: I don't know that.

24 MR. RAPP: When was, to the best that you know, 25 when was 94 -- problem report 94149 closed out?

THE WITNESS: I do not know. 1 MR. WEINBERG: Do you even know what 94149 1s? 2 THE WITNESS: I don't know. I presume it's --3 and SP-630 QMC 941 is the one that deals with MUV-60, Which is where we 4 went into MUV-60 to see if we did maintenance on MUV-60. 5 And that's what we think caused this evolution. But I do 6 not know what that problem report is, by that number. 7 MR. RAPP: Okay. I believe 149 -- PR94-149 was 8 written in response to the observations made during 9 10 SP-630. THE WITNESS: Okay. 11 MR. RAPP: You still don't know when that 12 particular issue was closed? 13 THE WITNESS: No, I don't. 14 MR. RAPP: Was that -- Was this an on-going 15 issue when you left the Systems Engineering area? 16 THE WITNESS: Yes. Yes. 17 MR. RAPP: Okay. I have here you. interview 18 summary that was conducted with FPC as part of their 19 internal investigation here. And it states in hare, ic 20 says, Specifically recalls Hinman telling him -- you --21 that he had two sets of data to work with. 22 Did Pat Hinman relate to you how he came about 23 24 with two sets of data? THE WITNESS: He told me that -- and this was 25

1 later, this was after I approached him again -- that he
2 had --

3 MR. WEINBERGMR: When you say approached him
4 again, this was --

5 THE WITNESS: At that time he did not tell me 6 how he came across two sets of data.

7 MR. WEINBERG: But a year later, this July when 8 this came up again --

9 MR. RAPP: July of '95.

10 MR. WEINBERG: July of '95 --

11 THE WITNESS: Okay.

MR. WEINBERG: In response to your question hecan explain what Hinman told him.

MR. RAPP: Okay. So at the time this interview took place -- I'm sorry. Prior to this interview taking place Mr. Hinman had not related to you how he came across two sets of data. Say like in September 11th or something like that of '94?

19THE WITNESS:No, ro.No, not that I recall.20MR. RAPP:Okay.So then later on he told you21how he came about this two sets of data?

THE WITNESS: Later -- Later on I approached Mr. Hinman and asked him if there had been two, two separate tests. He said yes. I asked him how he knew that. He told me that he had pulled REDAS data and it had

shown two similar type of trends. And he said that one 1 trend looked to be more severe than the other. 2 MR. RAPP: Did Mr. Hinman say what prompted him 3 to look for additional data sets other than --4 THE WITNESS: Yes, he did. 5 MR. RAPP: And what was that? 6 THE WITNESS: He said that he did not know -- I 7 believe Mr. Hinman at this time was also -- had also 8 changed positions and was now in the mechanical shop as a 9 shop engineer. And he did not know the exact date that 10 11 the test had been performed. So he took a window of data over several days just to see what had transpired. 12 MR. WEINBERG: And in the process came across 13 both of them; is that what you're saying? 14 15 THE WITNESS: Yes. Took a window of more than 16 one day and in that window there were two ble -- two 17 indicators. MR. DOCKERY: Do you recall those dates? As we 18 19 sit here today do you recall what those dates were? 20 THE WITNESS: As far as I know, based on my discussion in July I believe they were on the 4th of 21 22 September and the 5th of September. MR. RAPP: Did -- Did -- I mean, it's pretty 23 24 well documented what date this thing occurred, this evolution occurred, this September 5th. 25

MR. WEINBERG: Yeah, but not on the -- just to 2 interrup. --

3 MR. RAPP: Okay.

MR. WEINBERG: On the problem -- if you look at 4 the problem report it doesn't say September 5th. So I 5 believe what he's trying to explain to you is that Hinman, 6 since the problem report didn't say September the 5th, was 7 trying to figure out what day it really happened on and 8 take a look at the REDAS data. And in looking at a space 9 of time over a few days came upon similar data for the 10 4th. So he figured out that it was the 4th and the 5th. 11 12 MR. STENGER: The problem report says the event date was September 7th. 13

14 MR. WEINBERG: Seventh.

MR. RAPP: Okay. All right, that explains it.
When -- My understanding is that when the OI initial report came out that Pat Hinman came to you and said, there's no mention of the second or the first data set in this report. Is that correct?

20 THE WITNESS: No, that's not correct.

21 MR. RAPP: Okay.

MR. STENGER: I think you meant the NRCinspection report, Curt. You said OI report.

24 MR. RAPP: Okay, maybe it was NRC inspection 25 report.

THE WITNESS: I -- I had a safety meeting in 1 the Machine Shop, which is what I -- my job, on -- it was 2 either July 12th or July 13th, and the discussion came up 3 about the makeup tank issue. And I discussed what I knew 4 about it, which was not a whole lot. And when I walked 5 downstairs Pat Hinman said, have you seen the NRC's 6 report. And I said no. And he said, I have a copy, you 7 can review it. And I took it home and reviewed it. 8

And after reviewing that report it became obvious 9 to me that NRC did not know that there was more than one 10 11 test.

MR. RAPP: And do you recall approximately what 12 13 time frame this was"

THE WITNESS: It was at my house on July 13th, 14 because : was my 15 MR. WEINBERG: Can't get much more exact than 16

MR. DOCKERY: Guess it kind of stuck in your 18 19 mind, right?

THE WITNESS: Yes, uh-huh. 20

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that I quess, right?

MR. STENGER:

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THE WITNESS: I -- I'll be honest with you. I 22 was in a situation that I knew information and I had to do 23 something about it. 24

MR. RAPP: Did you feel it necessary or feel any

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responsibility to report this second set of data when Mr. 1 Hinman first informed you of it? 2 THE WITNESS: No, I -- when Mr. Hinman first 3 informed me of it it was -- I don't recall the exact time, 4 Lut I believe it was when the initial investigation 'as 5 going on in the Fall of 1994. 6 MR. WEINBERG: You mean by Management? 7 THE WITNESS: Yes, by Management. 8 MR. RAPP: You mean the investigation by FPC 9 10 Management? THE WITNESS: Yes. 11 MR. WEINBERG: Yeah, by the Management Review 12 Committee, that what --13 MR. RAPP: Oh, the management review, okay. 14 THE WITNESS: And Mr. - And I had -- I was no 15 longer in the -- my engineering position; I was now in a 16 new role in maintenance, which I was having a little 17 difficulty absorbing, or coming proficient at. And Mr. 18 Hinman informed me of this in passing as he was going 19 to go be interviewed. He was on his way to be 20 interviewed. And he informed me that he was going to be 21 Jut of the shop and would not be available to be shop 22 engineer for some time until this was done. 23 24 And so I felt fairly comfortable that things were QMC in hand, that an investigation was being done and that any 25

1 -- any information would be determined. MR. RAPP: So you were left with the 2 understanding or feeling that Mr. Hinman was going to 3 discuss this --4 THE WITNESS: Yes. 5 MR. RAPP: -- first set of data during his 6 interview? 7 THE WITNESS: Right. 8 MR. RAPP: Was he ever interviewed, do your 9 know? 10 THE WITNESS: No, he was not, to my knowledge. 11 MR. RAPP: When did you find out that Pat Hinman 12 was not -- was not interviewed? 13 THE WITNESS: I do not know. I don't think it 14 was immediately after that. I think it was probably in 15 1995. I don't recall him telling me right after that. 16 MR. RAPP: Did Mr. Hinman ever tell you or 17 discuss with you the necessity to bring this first set of 18 data to Management's attention? 19 THE WITNESS: The fact that there were two 20 tests? 21 MR. RAPP: Right. 22 THE WITNESS: Mr. Hinman and I talked about it 23 24 on July 14th after I had read the report at my house and 25 decided that I needed to conclusively determine if there

had been	two tests. He told me yes, there had been. He
showed m	e the REDAS graph and he asked me what he needed
to do	
	MR. RAPP: What about prior to that, were there
any disc	ussions? Like right after this management review
board or	panel?
-	THE WITNESS: No. I don't I don't recall
any.	
	MR. VORSE:
	THE WITNESS:
	MR. RAPP:
	THE WITNESS:
	MR. VORSE:
	had been showed mu to do any discu board or any.

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MR. RAPP: How long were you the manager of 1 Primary Systems Engineering? 2 THE WITNESS: It was supervisor --3 MR. RAPP: Supervisor. 4 THE WITNESS: -- of Primary Systems Engineering. 5 I started in -- it was either later 1991 or -- it was 6 1991. In the Fall of 1991. 7 MR. RAPP: Were you involved with any of the 8 discussions that were taking place concerning raising the 9 dissolved hydrogen value to 25 cc's per kg? 10 THE WITNESS: Yes. 11 MR. RAPP: And how were you involved in those 12 discussions? 13 THE WITNESS: I was involved as a -- there were 14 some meetings that were involved. I participated in those 15 meetings. The issue of raising to the 25 kg's per ed 16 (sic) is primarily a EPRI recommendation and it was a 17 water chemistry parameter that we were essentially going 18 to do. And it was because of water chemistry guidelines. 19 And we had been tasked to do it. 20 MR. RAPP: Was -- To your knowledge was 21 Chemistry coming out and saying that we've got too much 22 dissolved oxygen in the system, we need to have a higher 23 hydrogen concentration? 24 THE WITNESS: Chemistry had always supported, to 25

1 my knowledge, increasing the hydrogen concentration.

2 MR. RAPP: During these -- during these meetings 3 what levels of management were present? Was it just 4 basically between Engineering and Chemistry or were senior 5 managers involved?

6 THE WITNESS: No, I don't -- I do not believe 7 senior managers were involved. It was more of a 8 supërvisory or possibly the department manager would be 9 involved. But it was normally at a lower level.

10MR. RAPP:It was more of a working level?11THE WITNESS:Yes.

MR. RAPP: Okay. Were there any concerns raised by the Engineering staff that needing this higher hydrogen concentration would -- would it be pushing the envelope on system design and system operability?

16 THE WITNESS: I do know that there -- there were 17 concerns raised with the fact that raising the hydrogen 18 concentration required increasing the hydrogen pressure, 19 which indirectly reduces the time or directly reduces the 20 time available before you would have a potential for the 21 gas binding in a makeup pump.

22 MR. RAPP: How did that affect Curve 8? The 23 limit, the operations limit?

24THE WITNESS:I do not know the answer to that.25MR. RAPP:Did Engineering have to supply a new

1 curve to the operations staff --

THE WITNESS: Yes.

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3 MR. RAPP: -- to implement this higher hydrogen? 4 THE WITNESS: Yes, and that was done through the 5 design engineering organization that was produced in St. 6 Pete.

7 MR. RAPP: So your group, the primary system 8 engineering group did not have any review or input or --9 THE WITNESS: No, I believe Pat Hinman reviewed 10 and input -- had input to that curve.

11 MR. RAPP: Was that discussed with you at any 12 point, say like routine meetings with -- with the people 13 you were supervising was on status of work?

14 THE WIGNESS: The details of it, what -- what 15 was driving that work was primarily the design engineering 16 schedule, what they could perform in their -- based on 17 their resources. And we supported them with that.

18 MR. RAPP: Was anybody from the management side 19 of the house or Management staff saying, when are you 20 going to get this new operating curve back to the 21 operations staff, we want to get this established ASAP, 22 what's the delay? Was there any --

THE WITNESS: I don't recall that. I don't.
MR. RAPP: Did you routinely go to the plan of
the day meetings?

THE WITNESS: DO I? 1 MR. RAPP: Yes. 2 THE WITNESS: No. 3 MR. RAPP: As a -- even in the capacity as a 4 supervisor of Primary Systems Engineering? 5 THE WITNESS: No. 6 MR. RAPP: Did your supervisor ever discuss that 7 8 with you? THE WITNESS: My -- The manager of System 9 Engineering would, yes. 10 MR. RAPP: Okay. Did he ever discuss -- did 11 there -- there's a question as to why there's a delay or 12 why this -- why is this taking so long to get a curve to 13 the Operations staff? 14 THE WITNESS: No, not that I recall. 15 MR. DOCKERY: I'm unclear on something. Are we 16 referring to the old Curve 8 or a new Curve 8? 17 MR. RAPP: The Curve 8 that had to be revised in 18 order to meet 25 cc's per kg prior to September 5th of 19 20 1994. MR. DOCKERY: Okay. And that's -- So a new 21 curve was actually in the works. Is that your testimony? 22 MR. WEINBERG: Do you know? 23 THE WITNESS: I don't know. I believe it was. 24 25 I know that at one time the design engineering group was

working on a curve. And I know that there was a MAR that 1 was done that essentially had alarm point that followed 2 that curve. 3 MR. DOCKERY: What is a MAR? 4 THE WITNESS: A modification approval record. 5 MR. STENGER: M-A-R. 6 MR. WEINBERG: Well, who would most that, 7 because I think you said earlier you don't really know, 8 you never looked at Curve 8 --9 THE WITNESS: Right. 10 MR. WEINBERG: -- so who would be -- who 11 12 would --THE WITNESS: I think Pat Hinman would be the 13 best one for that. 14 MR. DOCKERY: Mr. Czufin, during the time that 15 you were a supervisor in Systems Engineering and this 16 issue was an issue with Curve 8, who was most identifiable 17 among the Ops, the Operations people with that -- with the 18 Curve 8 issue, to your knowledge? 19 THE WITNESS: To my knowledge that would be Mr. 20 Van Sicklen. 21 MR. DOCKERY: Van Sicklen? 22 THE WITNESS: Uh-huh. (Affirmative response.) 23 MR. DOCKERY: Was there any friction or 24 25 animosity between Engineering and Operations regarding

1 that curve?

THE WITNESS: I believe there was.
MR. DOCKERY: Could you elaborate on that for
us.

THE WITNESS: I did attend one meeting where Mr. 5 Van Sic -- it was a meeting to discuss going to the 25 6 cc's per kg. And Mr. Van Sicklen was there. And he came 7 up with several concerns that he had with going to this. 8 And Mr. Hinman took them all down and attempted to meet 9 with Mark Van Sicklen and, I believe, Carl Bergstrom to go 10 over the concerns. And he also included Terry Austin, who 11 was the design engineer. And he -- I believe he met with 12 Mr. Van Sicklen and addressed the concerns. 13

MR. RAPP: What time frame would this have been?
THE WITNESS: The would have been -- I don't
know. I do not know the answer to that.

17 MR. RAPP: Would that have been prior to the 18 SP-630 issue coming up?

19 THE WITNESS: I believe so.

20 MR. RAPP: So that would have been sometime in, 21 say, '93?

22 THE WITNESS: Probably.

23 MR. RAPP: Probably so.

When you said Mr. Van Sicklen, or Mark VanSicklen had some concerns about going to this higher

1 pressure, what -- do you recall specifically what his
2 concerns were?

3 THE WITNESS: I recall one was that the -- when 4 the makeup tank and the BWST compete for each other. They 5 compete for the suction. And when you go to the higher 6 pressure, that means that the -- that there's a difference 7 in when the makeup tank -- when the BWST takes over and 8 the makeup tank doesn't. I know that was one concern.

9 And his concern was based primarily on emergency 10 boration. We have two emergency boration flow paths. One 11 is makeup pumps and the other is I believe from the BASTS, 12 which is the boric acid storage tanks. And I do recall 13 that one.

MR. RAPP: At this time though there was no
issue about the accuracy of the -- this Curve 8 foll -THE WITNESS: Not to my knowledge that never -MR. RAPP: Okay. -- following plant response.
0kay.

19 Did -- Was this emergency boration issue seen as 20 a safety issue, a high priority issue, or was that a lower 21 level?

THE WITNESS: Mr. -- It -- Mr. Hinman took the concerns and actively worked on them.

24 MR. RAPP: Well, what did that -- I mean, 25 obviously there has to be some sort of priority assigned

1 to work, otherwise you get people doing things that don't 2 meet the goals of the plant or the necessary day to day 3 operations. How was that work assigned? When Mr. Hinman 4 had this concern, plus he probably had several other 5 issues going on with this system?

6 THE WITNESS: Right.

7 MR. RAPP: How did -- How was that -- How was 8 this particular concern integrated in with the rest of his 9 workload?

10 THE WITNESS: I can't tell you what his -- we 11 called it a punch list. I can't tell you what it had at 12 that time.

MR. PAPP: It wasn't assigned like a priority, this was like a priority four item or something like that? It just --

16 THE WITNESS: It -- Unfortunately, with the way 17 the System Engineers workload is, if you assign a priority 18 and they have a problem in the plant today, that becomes 19 their number one priority. And so their priorities change 20 daily.

21 MR. RAPP: Okay. Let me kind of switch over 22 here a little bit just to discuss some engineering 23 aspects.

One of the things that's come out during these
discussions is that the reason that the operators observed

a difference in the response of the plant versus Curve 8 1 is that because Curve 8 was designed or was taken from a 2 set of data generated during a large break LOCA analysis. 3 THE WITNESS: Okay. 4 MR. RAPP: And the data that the operators were 5 taking was taken during a normal drain down or normal 6 routine bleed of the makeup tank. 7 THE WITNESS: Okay. 8 MR. RAPP: Is that an acceptable or a reasonable 9 explanation for the difference in the two, the two curves? 10 THE WITNESS: I don't know. I -- If you want 11 me to speculate, I can, but I don't know. 12 MR. RAPP: I'm asking you as a -- as an 13 engineer. 14 THE WITNESS: As an engineer, I can tell you 15 that if I have a slow response -- well, I'll answer it 16 Core QMC 17 this way. agree with The NRC doesn't like the way we do our porv flood 18 AMC Core A flood valve testing because it's too slow. And a port 19 DMC. QMC accustion core valve accident, porv flood valves will go wide open and 20 Que. you'll have a massive amount of flow through there. So 21 they think our testing's inadequate, it doesn't give a 22 adequate test. 23 So, based on that analogy it is a possibility 24 25 that I could see a different response on the curve.

MR. RAPP: Okay. Let's --1 THE WITNESS: I don't --2 MR. RAPP: What's the --3 THE WITNESS: I don't know what your question 5 is. 6 MR. RAPP: Okay. THE WITNESS: You're asking me to speculate and 7 I don't -- if you want to show me graphs and curves and 8 give me actual data, I can give you an engineering 9 judgment. 10 MR. RAPP: Let's put it this way. Would you 11 expect, from an engineering standpoint, would you expect 12 the behavior of the liquid gas mixture in the makeup tank 13 to behave differently during a LOCA scenario versus a 14 normal routine bleed of the makeup tank? 15 THE WITNESS: Possibly. 16 MR. RAPP: And why would that be? 17 THE WITNESS: Just due to the time factor. If I 18 have a sudden change it's like a water hammer. A water 19 hammer occurs because of voids and velocities. If I 20 time long slowly fill something over a very chort period of , 21 AMC fill a pipe and then vent it, I can avoid water hammer. 22 I'm doing the same, I'm filling the pipe. So over a --23 when I take the impact factor and velocities and the 24 change of state of a fluid I can have water hammer. And 25

1 all I'm doing in that case is filling a pipe.

MR. RAPP: What pipe's not filling? 2 THE WITNESS: If I have a -- if I have a pipe 3 that's voided I can have a water hammer. And the water 4 hammer in effect is a result of filling that pipe too 5 quickly. If I have a pipe that's voided and I fill it 6 slowly and vent it, I don't have the water hammer. 7 So I think if you have a -- a scenario where you 8 have different conditions, you could have a different 9 10 response. MR. RAPP: Okay. Let me clarify something then. 11 12 When you said piping not filled, is there some piping in the makeup tank system --13 THE WITNESS: No, you asked --14 MR. RAPP: -- that is not filled? 15 THE WITNESS: Excuse me. You asked me to 16 speculate on a -- a series of data and that I have nothing 17 in front of me, and I gave you an analogy. And that 18 analogy was strictly that. It has nothing to do with the 19 makeup tank or the makeup tank issue. 20 21 MR. RAPP: Okay. All right. MR. DOCKERY: Let me slip a question in here if 22 23 I may. 24 MR. RA'P: Okay. MR. DOCKERY: Mr. Czufin, the curve number 8, 25

I I'm not sure this will mean anything to you and that's the point of my question, to see if it does. Curve number 8 was generally thought by Operations to be an administrative curve or an operating curve. It was subsequently found to be a design basis curve. Are you aware of that?

7 THE WITNESS: I am at this date. I was not 8 aware of that before.

9 MR. DOCKELY: What significance does that have 10 to you as an engineer?

11 THE WITNESS: As an engineer?

12 MR. DOCKERY: (Nods affirmatively.)

13 THE WITNESS: I think, as an engineer, I think a 14 curve that you operate under, you should assume that you 15 follow that curve. The significance means to me is that I 16 have a curve and whether it's design basis or whatever, 17 that's the curve I'm supposed to follow.

MR. DOCKERY: Okay. The Operations people that we've spoken to regarding this have -- have all -- not all, but generally it has been conceded that if we had known this was an op -- or a design basis curve as opposed to operating curve we might not have done what we did. We -- It would have been treated -- In other words, they found a lot of significance in it.

25 Would it be your expectation, as an engineer and

1 supervisor, that if one of the engineers under your
2 control were assigned to look at Curve 8, to analyze it
3 for validity, whatever, that they might discover during
4 the course of that analysis that it was a design basis
5 curve versus an operating curve?

6 THE WITNESS: That can be one and the same. A 7 design basis curve can be an operating curve.

8 If your question -- you're going to have to 9 repeat the question.

10 MR. DOCKERY: Okay. If I worked for you and I'm 11 analyzing this perceived problem with Curve 8, Curve 8 12 it's our understanding was never characterized anywhere in 13 writing, that anybody looked at, as an operating cur -- as 14 a design basis curve. Would you expect that as part of my 15 analysis as one of your engineers I might run across that 16 fact?

17 THE WITNESS: Yes. Yes, that's -- in the18 analysis I think you might determine that.

19 MR. DOCKERY: Might or should?

THE WITNESS: Depends on -- you said the problem with the curve. I'd have to know what the problem with the curve was.

23 MR. DOCKERY: Okay. I take it you weren't that 24 caught up in the issue at the time to have gotten to that 25 point, that it was determined what the problem was? Would

1 that be fair to say?

THE WITNESS: I -- If -- We talked earlier about the raising the pressure, and I do not know, I don't know what the problem with the curve was.

5 MR. RAPP: Let me ask this, to kind of follow up 6 here.

7 Does System Engineering maintain the design basis
8 curves or documents or limits or is that done by a
9 different group?

10 THE WITNESS: That's done by a different group. 11 MR. RAPP: Does System Engineering then know 12 what design basis limits or design basis values applied 13 calculations or information they're getting from this 14 other group?

15 THE WITNESS: Not -- Not -- Not unless they 16 had run across it before. The design basis documents do 17 re some references that specify where that information 18 . originally referenced from, but unless it was there or 19 they have run across it before they would not necessarily 20 know this information. They would have to run across it.

21 MR. RAPP: I take it this other group would be 22 Design Engineering.

THE WITNESS: It is a -- It's a form of -- it's
a part of design engineering from the St. Pete office.

25 MR. RAPP: Not on-site?

1 THE WITNESS: They are on-site now, the St. 2 Pete --

MR. RAPP: They're on-site now but at that time 4 they were not on-site?

5 THE WITNESS: Right, that's correct. 6 MR. RAPP: Okay.

7 MR. DOCKERY: Jim, do you have anything?
8 MR. VORSE: No.

MR. DOCKERY: Mr. Czufin, I think there's a 9 possibility that you may know more about this than we're 10 able to question you about. And if that's the case, if 11 you have any observations you'd like to make or knowledge 12 you'd like to share with us regarding the issue I'd 13 certainly encourage you to do so at this time. Or if 14 there's any questions we haven't asked that you'd like to 15 address anyway? 16

THE WITNESS: The only thing I'd like to say is 17 that I feel Mr. Hinman was responsive to the operators' 18 requests. He often made time to support their requests. 19 He was -- he was working -- he was kind of the middle man 20 He had Operations giving him information and he was 21 relaying that to Design Engineering to try to resolve 22 their concerns. And I can tell you that a lot of what was 23 going on was either right before I left the group or after 24 I had left the group. That's all I have. 25

MR. DCCKERY: Anybody have anything they'd like 2 to raise?

3 MR. WEINBERG: That was actually the question I 4 was going to ask.

5 MR. DOCKERY: Mr. Czufin, I would like to point 6 out that the attorneys in attendance today, as they have 7 stated, represent Florida Power Company. And I want to 8 let you know that you do have the right to meet with us 9 privately --

10 THE WITNESS: Okay.

MR. DOCKERY: -- at any time you desire.
THE WITNESS: Okay.
MR. DOCKERY: Is there anything you'd like to
add?

15 THE WITNESS: No, sir.

16 MR. DOCKERY: And I will go ahead and

17 acknowledge in advance that Mr. Weinberg's wish to review, 18 have you review your testimony here today. We will 19 accommodate that.

20 MR. WEINBERG: What that means is if that she'll 21 prepare a transcript and you'll have a chance to read it 22 just to make sure that it's accurate, in the sense that 23 the words you spoke were transcribed accurately as opposed 24 to --

25 THE WITHINS: Okay.

MR. VORSE: There's a lot of acronyms and a lot 2 of technical terms --THE WITNESS: Okay. MR. WEINBERG: Yeah, and it's, you know --THE WITNESS: Okay. MR. WEINBERG: We'll get that to you in due course and you'll need to review it and if there's some corrections we'll have to note them. MR. DOCKERY: If there's nothing further we'll 1.0 go off the record. (Whereupon, the proceedings were concluded at 2:25 o'clock p.m.)

CERTIFICATE

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This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

5 Name of Proceeding: Interview of David M. Czufin
6 Docket Number(s): 2-94-036

7 Place of Proceeding: Crystal River, Florida

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9 were held as herein appears, and that this is the original 10 transcript thereof for the file of the United States 11 Nuclear Regulatory Commission taken by me and, thereafter 12 reduced to typewriting by me or under the direction of the 13 court reporting company, and that the transcript is a true 14 and accurate record of the foregoing proceedings.

15 2001 16 Peggy S. May 07 17

Official Reporter Neal R. Gross and Co., Inc.