# NUCLEAR REGULATORY COMMISSION

# IN THE MATTER OF:

4

#### INTERVIEW OF EARL NAGLE

#### NRC/TMI SPECIAL INQUIRY

Place -

Date -

Philadelphia, Pennsylvania

Tuesday, September 25, 1979

POOR ORLOWDUNUS

8001160 650 T

1 - 51

Pages

A.15

### ACE - FEDERAL REPORTERS, INC.

Official Reporters

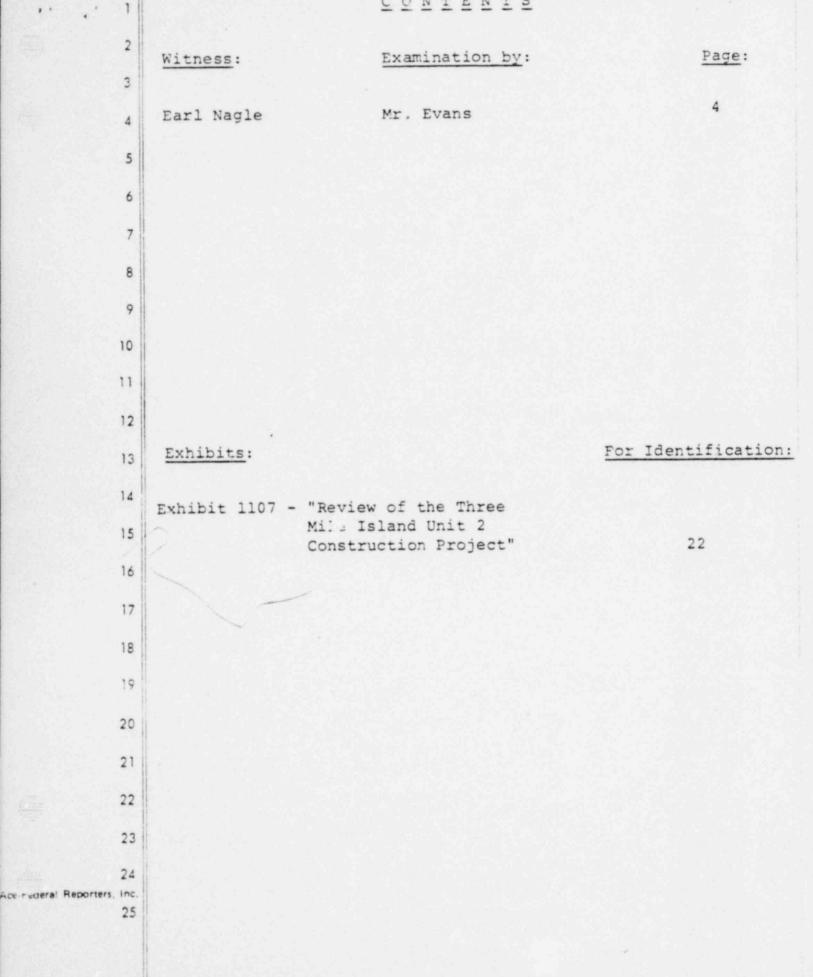
444 North Capitol Street Washington, D.C. 20001

NATIONWIDE COVERAGE - DAILY

| CR 7248          |            |   |
|------------------|------------|---|
| AR               | 1          | UNITED STATES OF AMERICA                                      |
|                  | 2          | NUCLEAR REGULATORY COMMISSION                                 |
|                  | 3          |   |
|                  | 4          | · · · · · · · · · · · · · · · · · · ·                         |
|                  | 5          | Interview of: :   |
|                  | 6          | EARL NAGLE :  |
|                  | 7          | x   |
|                  | 8          | NRC/TMI SPECIAL INQUIRY                                       |
|                  | 9          |   |
|                  | 10         | 12th Floor Conference Room<br>United Engineers Building       |
|                  | 11         | Philadelphia, Pennsylvania                                    |
|                  | 12         | Tuesday, September 25, 1979                                   |
|                  | 13         | The interview of Earl Nagle commenced at 10:00                |
|                  | 14         | a.m., and was conducted by Mr. R. Lawrence Vandenberg and     |
|                  | 15         | Mr. David Evans.  |
|                  | 16         | Also Present: Mr. Bernard J. Smolens, counsel                 |
|                  | 17         | for the witness; and Mr. William Stevens of United Engineers. |
|                  | 18         |   |
|                  | 19         |   |
|                  | 20         |   |
|                  | 21         |   |
|                  | 22         |   |
|                  | 23         |   |
|                  | 24         | IM RANCE  |
| Jeral Reporters, | inc.<br>25 | POOR ORIGINIAL  |
|                  | 20         | I WOUN O  |
|                  |            |   |

Act

CONTENTS



### PROCEEDINGS

MR. EVANS: This is a deposition, or an interview on the record, if you will, of Mr. Earl Nagle, being conducted by the NRC/TMI Special Inquiry Group. It is being held at the office of United Engineers in Philadelphia, Pennsylvania on September 25th, 1979,

3

Present, in addition to Mr. Nagle, is Mr. Bernard Smolens, Mr. William Stevens of United Engineers; also present is Mr. Larry Vandenberg and David Evans of the Special Inquiry Staff.

Mr. Nagle, have you had a chance --

MR. SMOLEN: Excuse me, Mr. Evans. Before you 12 begin your interrogation, the first written notice that we 13 had of this interview was in your letter of September 5, 1979 14 to Mr. Nagle, copy to me, which we received on September 10, 15 and in that letter and certain other enclosures, this was 16 described as an interview, in effect, that you wanted to 17 have with Mr. Nagle to ask him certain guestions, and we have 18 no objection to that. 19

In an undated letter that you handed to Mr. Nagle this morning for the first time, there was some written notification that you regard this as a deposition. I don't know that there's any magic in the concept of a deposition as contrasted with an informal interview, but I will state that we do not regard this as a deposition. We regard this

24 Ace- Jeral Reporters, Inc.

1

|                        | 1    | whatever the distinction may be as an informal interview     |
|------------------------|------|--|
|                        | 2    | with Mr. Nagle.  |
|                        | 3    | And with that observation, you go ahead.                     |
|                        | 4    | MR. EVANS: Off the record.                                   |
|                        | 5    | [Discussion off the record.]                                 |
|                        | 6    | MR. EVANS: Back on the record.                               |
|                        | 7    | Mr. Nagle, have you had a chance to read the                 |
|                        | 8    | witness notification form which I had previously sent to you |
|                        | 9    | regarding this special inquiry?                              |
|                        | 10   | MR. NAGLE: Yes.  |
|                        | 11   | MR. EVANS: And as Mr. Smolens has actually pointed           |
|                        | 12   | out today, I also gave you a letter signed by Mitchell       |
|                        | 13   | Rogovin of the Special Inquiry Staff. Is that correct?       |
|                        | 14   | MR. NAGLE: Yes.  |
|                        | 15   | MR. EVANS: And you've had a chance to read that              |
|                        | 16   | letter?  |
|                        | 17   | MR. NAGLE: I have.   |
|                        | 18   | MR. EVANS: Do you have any objections to proceeding          |
|                        | 19   | other than those stated by Mr. Smolens?                      |
|                        | 20   | MR. NAGLE: NO.   |
|                        | 21   | Whereupon,   |
|                        | 22   | EARL NAGLE   |
|                        | 23   | was called as a witness and, having been first duly sworn,   |
|                        | 24   | was examined and testified as follows:                       |
| Ace Luderal Reporters, | 1nc. |  |

|         | 1  | EXAMINATION  |
|---------|----|--|
|         | 2  | BY MR. EVANS:  |
|         | 3  | Q Would you state your full name for the record,             |
|         | 4  | please, and your position.                                   |
|         | 5  | A Position with United Engineers?                            |
|         | 6  | Q That's correct.  |
|         | 7  | A Earl C. Nagle, Vice President, Group Manager,              |
|         | 8  | Construction Division.                                       |
|         | 9  | Ω Mr. Nagle, could you outline for us your involvement       |
|         | 10 | with the Three Mile Island 2 Nuclear Generating Station as a |
|         | 11 | representative of United Engineers?                          |
|         | 12 | A I was project manager for United Engineers.                |
|         | 13 | Q Throughout the length of the involvement of the            |
|         | 14 | company with the unit?                                       |
|         | 15 | A No. Best of my recollection, I was assigned                |
|         | 16 | December 1970; effectively my work was completed, I think,   |
|         | 17 | some time in August of '77.                                  |
|         | 18 | Q And was August of 1977 the approximate termination         |
|         | 19 | of the company's involvement in Unit 2?                      |
|         | 20 | A Other than finishing up some work with our sub-            |
|         | 21 | contractors, yes.  |
|         | 22 | Q Do you have with you today a copy of the contract          |
|         | 23 | of United Engineers with the owners of the Three Mile Island |
| porters | 24 | 2 Generating Station?  |
|         | 25 | A I've got a copy of the what I would consider               |
|         |    |  |

Ace udera Re

|                      | 1          | the original contract between UEC and Metropolitan Edison.    |
|----------------------|------------|---|
|                      | 2          | Q Would you be willing to make that available to us?          |
|                      | 3          | A Yes, we'll make that available.                             |
|                      | 4          | MR. SMOLENS: Yes.   |
|                      |            |   |
|                      | 5          | On the top of it, there is what looks to be just a            |
|                      | 6          | transmittal slip from a Mr. Wise to somebody else. You can    |
|                      | 7          | read it, and then I'll tear that off.                         |
|                      | 8          | [Handing document to Mr. Evans.]                              |
|                      | 9          | MR. SMOLENS: You're not going to read the contract            |
|                      | 10         | now, are you?   |
|                      | 11         | MR. EVANS: No.  |
|                      | 12         | MR. SMOLENS: I just wanted you to see that,                   |
|                      | 13         | because I don't see any point in having the transmittal slip. |
|                      | 14         | THE WITNESS: Are you intending to carry some of               |
|                      | 15         | this away with you?   |
|                      | 16         | MR. EVANS: That's my intention.                               |
|                      | 17         | MR. SMOLENS: We'll set aside the things that you              |
|                      | 18         | want to copy, because we may not be giving you that one,      |
|                      | 19         | but we'll give you a copy of it.                              |
|                      | 20         | MR. EVANS: That's acceptable.                                 |
|                      | 21         | MR. SMOLENS: Off the record.                                  |
|                      | 22         | [Discussion off the record.]                                  |
|                      | 23         | MR. EVANS: Back on the record.                                |
|                      | 24         | BY MR. EVANS:   |
| Ac ederal Reporters, | Inc.<br>25 | Q Mr. Nagle, did you have any involvement in bidding          |
|                      |            |   |

| · · ·                  | 1    | on or negot: | iating that contract which you have just provided    |
|------------------------|------|--------------|--|
|                        | 2    | to me?       |  |
|                        | 3    | A 1          | No.  |
|                        | 4    | Ω            | When was the first time that you became involved     |
|                        | 5    | with the pro | oject?   |
|                        | 6    | A I          | December of '70.                                     |
|                        | 7    | Q            | And how did that occur? Were you called to a meeting |
|                        | 8    | and asked to | o assume the role as project manager?                |
|                        | 9    | A            | Yeah, I was assigned by my boss, Mr. Rebenold.       |
|                        | 10   | Q            | Would you spell that last name?                      |
|                        | 11   | А            | R-e-b-e-n-o-l-d.                                     |
|                        | 12   | Q            | Mr. Nacie, when Catalytic left excuse me, strike     |
|                        | 13   | that.        |  |
|                        | 14   |              | When UE&C completed its work on Unit No. 2 at        |
|                        | 15   | Three Mile   | Island, what would be the best date for estimating   |
|                        | 16   | its complet  | ion?   |
|                        | 17   |              | MR. SMOLENS: Would you read that question back,      |
|                        | 18   | please?      |  |
|                        | 19   |              | I'm not sure that I understand it. I don't know      |
|                        | 20   | whether Mr.  | Nagle did.   |
|                        | 21   |              | MR. EVANS: Never mind. Let me rephrase the           |
|                        | 22   | question.    |  |
|                        | 23   |              | EY MR. EVANS:  |
| -ce-regeral Reporters, | 24   | Q            | When did UE&C, in your opinion, complete its work    |
|                        | 25   | at Three Mi  | le Island 2?   |
|                        | 1000 |              |  |

| 10 A.                  | 1  | A I think our responsibility for construction of             |
|------------------------|----|--|
|                        | 2  | TMI 2 ended about mid-August of '77.                         |
|                        | 3  | Q And what were the circumstances under which UE&C           |
|                        | 4  | ended its work at Three Mile Island 2? Had it completed what |
|                        | 5  | it had set out to do?  |
|                        | 6  | A Yeah, basically the work was complete. There were          |
|                        | 7  | still some punch list items, some incomplete items of work,  |
|                        | 8  | which I cannot recall.                                       |
|                        | 9  | We did have, as I said before, some work with sub-           |
|                        | 10 | contractors, insulation, some minor items of work.           |
|                        | 11 | Ω Can you recall how large that list                         |
|                        | 12 | A I don't understand your question about what we             |
|                        | 13 | set out to do.   |
|                        | 14 | Q As specified in the contract.                              |
|                        | 15 | A Well, I answered that.                                     |
|                        | 16 | Q Can you estimate the size of the punch list items          |
|                        | 17 | which were uncomplete or incomplete at the time that UE&C    |
|                        | 18 | left the job?  |
|                        | 19 | A No, no, I couldn't estimate that.                          |
|                        | 20 | Q Would you say it was large?                                |
|                        | 21 | A Compared to what?  |
|                        | 22 | Q Compared to other units which you've been involved         |
|                        | 23 | in.  |
| Ace-rederal Reporters, | 24 | MR. SMOLENS: Large is a relative term, and it                |
| inter avera reporters, | 25 | might be relative to the project. The project might be a     |
|                        | 1  |  |

|  | 1            | big project; the project might be a small project; and how    |
|--|--------------|---|
| 专  | 2            | you can compare punch lists on a project this size with a     |
|  | 3            | punch list on a project of other sizes, I don't know. And     |
| in the second se | 4            | I don't know whether Mr. Nagle can do it.                     |
|  | 5            | THE WITNESS: I think the answer to Mr. Evans'                 |
|  | 6            | question has to be that I don't know at this point. I don't   |
|  | 7            | know the extent of it, and I really couldn't say whether it's |
|  | 8            | large it was large or small. We'd have to do some research    |
|  | 9            | on it.  |
|  | 10           | BY MR. EVANS:   |
|  | 11           | Q You didn't review any documents in preparation for          |
|  | 12           | coming here today on your involvement with the project?       |
|  | 13           | A Yeah, we reviewed I reviewed some documents, but            |
|  | 14           | not specifically that.  |
|  | 15           | MR. SMOLENS: I think what Mr. Nagle tried to do               |
|  | 16           | was to assemble as many of the documents as were called for   |
|  | 17           | in the September 5 thing. I don't know whether he reviewed    |
|  | 18           | them or not, but I know you did try to get them together.     |
|  | 19           | BY MR. EVANS:   |
|  | 20           | Q Mr. Nagle, let me just ask one last guestion in             |
|  | 21           | this area and then leave.                                     |
|  | 22           | So you don't recall a number, a ball-park number,             |
|  | 23           | of incomplete items on a punch list?                          |
| artista<br>Valida  | 24           | A No, I do not.   |
| Acen ederal Reporters  | , inc.<br>25 | Q To your knowledge, was UE&C replaced by another             |
|  |              |   |

| 1          | contractor at the Three Mile Island 2 unit?  |
|------------|--|
| 2          | A Yes, another contractor was brought in to finish   |
| 3          | up the incomplete items and to do maintenance work.  |
| 4          | Q And do you know the name of that contractor?   |
| 5          | A Catalytic.   |
| 6          | MR. SMOLENS: Mr. Evans, you used the word  |
| 7          | "replaced." I wonder if that is a correct concept, or was  |
| 8          | Catalytic to pick up the maintenance aspect of the project, or   |
| 9          | was the word "replaced" correct?   |
| 10         | THE WITNESS: As far as I'm concerned, you know,  |
| 11         | unless we're going to fool around with semantics, why,   |
| 12         | "replace" is okay. You know, the   |
| 13         | MR. SMOLENS: Okay.   |
| 14         | MR. EVANS: Let's go off the record.  |
| 15         | [Discussion off the record.]   |
| 16         | MR. EVANS: Okay, let's go back on the record.  |
| 17         | BY MR. EVANS.  |
| 18         | Q Mr. Nagle, did you have any contacts with the people   |
| 19         | from Catalytic as there was a change in the contractor at  |
| 20         | the Three Mile Island 2 site?  |
| 21         | A UE&C?  |
| 22         | Q That's right.  |
| 23         | A Yes, we did have some contact. We had interface  |
| 24<br>Inc. | with them.   |
| 25         | Q Could you describe that interface?   |
|            | 2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18<br>19<br>20<br>21<br>22<br>23<br>24<br>inc. |

| 1  | A Well, I started out with a meeting between                     |
|----|--|
| 2  | GPU, Catalytic and ourselves, GPU describing what they wanted    |
| 3  | to achieve, which was an orderly turnover of whatever our        |
| 4  | responsibilities were to GPU and Catalytic. That was a           |
| 5  | meeting I don't recall when it was I was at the meeting,         |
| 6  | the GPU project manager was at the meeting, and the Catalytic    |
| 7  | I presume he was a project manager was at the meeting, and       |
| 8  | we set up some ground rules and broadly defined the scope of     |
| 9  | the work remaining, that is the incomplete construction, because |
| 10 | the maintenance was not our responsibility at any time.          |
|    |  |

And following that, I suppose, we had some additional meetings bringing additional people in, lower level supervision, to effect an orderly turnover of the responsibilities to GPU-Catalytic.

15 Q Do you recall when that meeting was in rough dates? 16 A I don't really recall. If I had to guess, I'd 17 say it was probably early '77.

Q Fine.

Do you recall the names of the people that attended the meeting other than yourselves? You mentioned the GPU project manager.

A Okay, now, we're talking about the first meeting that I can recall and that was myself, Dick Hewert, R. W. Hewert, Jr., project manager for GPU, I do not recall the Inc. Catalytic's man's name. I think Bill Gunn, William Gunn, was

Ace + ederal Reporters, Inc

-

| 1   | was there. I think his title at the time was site project     |
|-----|---|
| 2   | manager for GPU, reporting to Hewert. And I believe Roger     |
| 3   | Reynolds was there with me.                                   |
| 4   | MR. SMOLENS: Excuse me. Now you've been saying GPU,           |
| 5   | Earl, and I know that in the wings there is also GPUSC. Now   |
| 6   | when you say GPU, do you mean GPU or might you in some of     |
| 7   | these instances be meaning GPUSC, which, as I understand it,  |
| 8   | as a separate, although wholly-owned, corporation?            |
| 9   | THE WITNESS: Well, Hewert and Gunn, to the best               |
| 10  | of my knowledge, worked for the Service Corporation.          |
| 11  | MR. SMOLENS: Okay.  |
| 12  | MR. EVANS: Let me state for the record we                     |
| 13  | understand the relationship between GPU and GPUSC and we will |
| 14  | take that into account.                                       |
| 15  | BY MR. EVANS:   |
| 16  | Q I'm curious, Mr. Nagle, in knowing when you were            |
| -   | first informed that there was going to be this change of      |
|     | contractors constructors, excuse me.                          |
|     | A Well, I'm guessing again, but it was probably nine          |
| ÷., | months to a year prior to that, effecting this in August of   |
|     | '77. So it goes back about a year prior to that. It wasn't    |
| 22  | any surprise. We didn't know it was going to be Catalytic,    |
| 23  | but we did know we were going to follow the procedure we did  |
| 24  | on Unit 1, wherein we carried the construction to a certain   |
| Inc |   |

12

Ace-rederal Reporters, Inc.

25 point in completion and a maintenance contractor was brought

aboard to finish up whatever construction items remained, plus take over the maintenance. But that's a guess. I don't know when I was first informed of it. But it wasn't -- it wasn't a 4 surprise, by any means. We did that on Unit 1. We had reasons 5 for doing it on Unit 1. It worked well on Unit 1 and I'd 6 say, you know, we had no problem that they were bringing this 7 contractor onboard. We expected it.

2

3

25

8 But as far as when I was first made aware that we 9 were going to do it, hell, it might have gone back two or 10 three years to when we were doing it on 1.

11 Q Was your arrangement with GPU such that that --12 determining when that change would be made was flexible? 13 A I don't really recall whether it was flexible. I 14 kind of think it was -- we picked a point in time and from 15 our schedule, work would be complete, construction work would 16 be complete to a point. And that was established by the schedule as it was at that time, and as far as flexible, I suppose it might have been flexible, but I really think we picked a point in time and at that time point we effected the change.

Could you estimate for me what percentage of 0 22 1 construction was complete at the time that you left the site? 23 11 A That's kind of difficult. I'd say, as a guess, 24 90 to 95 percent. inc

> How does that compare with the completion, the 0

amount of construction that had been completed on Unit 1 when 1 2 you left that job? A I'd say Unit 1 was in a more advanced state of 3 4 completion. 5 Q Do you have any explanation for the difference, or 6 is that just a matter of different sites? 7 A No, I don't have any explanation for it, for the 8 difference. Q Mr. Nagle, this replacement which we've been talking 9 10 about of UE&C with Catalytic, if you'll allow me to use that 11 broad term, do you have any information that it reflected 121 some dissatisfaction on the part of GPU or any of its 13 operating companies with the performance of UE&C? 14 A No, I have no information of that nature. I never 15 11 even heard that. 16 Q Are you aware --• -- -A I might add one thing: Going back to what I said earlier, this is a plan devised on Unit 1 between us. We . . collectively thought it worked effectively on Unit 1, so we followed the same plan on No. 2. And as far as any dissatis-21 faction with UE&C, I have no knowledge that that entered into 22 this decision at all. 22 1 I would think to the contrary. I've never heard 24 any dissatisfaction expressed as a reason for bringing

Ace-Hederal Reporters, Inc.

25

\* \*

Catalytic in to replace UE&C.

|   | 1  |   |
|---|----|---|
| · · · · ·   | 1  | Q Do you know if when Catalytic came on to the site,          |
| arita<br>Tanang   | 2  | it had a number of tasks to do which might be more properly   |
|   | 3  | called construction rather than maintenance?                  |
| Ann ann<br>An Linn<br>An Linn<br>Ann<br>Ann<br>Ann<br>Ann | 4  | A I don't recall specifically, but I would say yes.           |
|   | 5  | In addition to maintenance, as I understand it, there were    |
|   | 6  | items of work for Catalytic to do that didn't fall under my   |
|   | 7  | definition of maintenance. There were completion of construc- |
|   | 8  | tion.   |
|   | 9  | Q Was that true also for Unit No. 1, that there were          |
|   | 10 | matters for, I believe, the maintenance constructor           |
|   | 11 | contractor there was Gilbert?                                 |
|   | 12 | A Kraus.  |
|   | 13 | Q Kraus, thank you. Was it true that Cross also had           |
|   | 14 | things which might more properly be called construction tasks |
|   | 15 | than maintenance tasks?                                       |
|   | 16 | A No. Again, in my opinion, when Kraus came onboard           |
|   | 7  | on Unit 1, there were only very minor completion of construc- |
|   | 4  | tion items to be done, and in fact, we might have completed   |
|   |    | them, fence security, and that type of thing.                 |
|   |    | So, basically, when Kraus came onboard, in my                 |
|   | 25 | opinion, their function was mainly maintenance.               |
|   | 22 | Q Do you know whether after Catalytic took over work          |
|   | 23 | at Unit No. 2, it retained some of the craft labor which you  |
| Ace-resteral Reporters.                                   | 24 | had originally hired for the project?                         |
| Muerrouera, neporters,                                    | 25 | A No, I don't know for sure, but I would suspect that         |
|   |    |   |

1 they hired people that had previously been in our employ.

8.6

I mean, you know, it's an area labor pool, and 2 Catalytic operated union, the same as we did. So the labor 3 pool would be, I would assume, the same labor pool. They used 4 the same labor pool we did. I don't know that we actually --5 well, period. I guess that answers the question. I don't 6 know who they hired, but I'm assuming they hired the building 7 8 trades people from Harrisburg.

Q I have just one last question in this broad area 9 10 1 of transition, and that is that I don't really understand 11 how it worked between UE&C and Catalytic and GPU. It's my 12 understanding from what we've talked about today that perhaps 13 90 to 95 percent of the construction was complete, but there 14 was still some to be completed.

15 1 Catalytic was principally a maintenance contractor; 16 came in, and had to assume some construction responsibilities. "Who directed the craft labor, if you know this, in completing - those projects which were still open when UE&C left the project?

> I don't know. A

MR. EVANS: Could we go off the record for just a 21 minute? 22 |

[Discussion off the record.]

MR. EVANS: We can go back on the record.

. BY MR. EVANS:

231

24

25

Ace-rederal Reporters

Mr. Nagle, I'd now like to turn back to your initial Q

involvement with the unit, with the project, with GPU. 1 2 Was there a master schedule set at the outset of 3 your contractual dealings with GPU? 4 A Well, I wasn't involved with it at that point in 5 time, but I assume there was a master schedule or target schedule. 6 7 Q Did you ever see a copy of that? 8 I don't know if I saw a copy of the original. I A 9 have some schedules here in response to your request for 10 schedules, and I've gotten together everything that was i available, and we do have some very early schedules in this package, and also some of the later ones. 13 Q Once you became involved with the project, were 14 you involved in setting the schedule? 15 A Yes. 16 Q And did the schedule change substantially through the course of your involvement with the project? 2 A Yes. Who would work out schedule changes? 0 A Well, that would be a combined effort between UE&C and GPU, as far as the scheduling of the construction work. 22 We had nothing to do with the scheduling of the engineering work. 22 Or the scheduling of the suppliers under contract to GPU. But 22 the construction schedule would basically be formulated by Inc 25 UE&C, reviewed with GFU, and approved by both of those.

Ace-i uteral Reporters

When you say GPU, could you name who your contacts were in setting that schedule?

A Yeah, the people that signed the schedule, myself and Mr. Hewert. After Hewert became project manager. Subsequent to that, there was a fellow named George Bierman, and I think he was onboard about a year, after I was assigned, say roughly through '71. I don't know when Hewert came onboard, actually, as project manager, but I think it was about a year after I was assigned.

10 Q So if I understand the process, UE&C would draft a 11 schedule for its construction work, then would meet with GPU 12 and eventually get approval for the schedule that had been set? 13 A Right. Broadly that's correct.

Q Would GPU in any way affect the schedule which you had drafted? Ask you to move it up or slow it down or modify it to meet their pacing items?

A I think the answer to that has to be yes.

Q Could you generalize whether there was a desire on the part of GPU to speed it up or slow it down?

Let me clarify by completing that. To slow up or speed down the construction schedule which you had set and brought to them.

A Not any more than what I would consider normal under the projects that I've had. You have to recall they had control or were responsible for the pace of engineering.

Ace-rederal Reporters, In

Their review might factor in some things that we weren't aware of. Engineering, availability of engineering information, you know, might tend to slow the schedule down. As we conceived the construction schedule, the information might not be available when we needed it, we'd have to modify schedule to accommodate that, or they'd have to modify the engineering schedule to accommodate the construction schedule.

8 Q If I understand what you are saying, engineering 9 information and services were the pacing item?

A No, they could be. They were not always. They
 could be.

You were talking about GPU review of the schedule dictating an acceleration of the schedule or retarding of the schedule, and I think the GPU input was based on the real life, what was going on, rather than some arbitrary decision that, you know, we want it sooner.

Q As the project progressed, did the availability of the nuclear steam supply system affect the schedule which you were working under?

A You want to explain that a little bit more?

Q Simply did the availability of the B&W portions of the plant, when those units -- when that equipment could be delivered to the site, did that affect the construction which you were doing to prepare for that equipment?

Acen Jeral Reporters

25

MR. SMOLEN: I guess maybe what Mr. Evans is getting

at, what Babcock & Wilcox was doing or didn't do, did that in 1 any way affect your schedule? Did it slow you up, just to get 2 3 right to the nub of the thing? 4 MR. EVANS: That's right. 5 THE WITNESS: I don't recall that it did, but I 6 don't recall that it didn't. 7 BY MR. EVANS: Did corporate financing problems affect your 8 0 9 schedules? MR. SMOLENS: Whose corporate financing? 10 11 1 MR. EVANS: Excuse me. GPU's financing problems 12 or financing concerns affect. UE&C's scheduling? 13 MR. SMOLENS: Assuming they had any. 14 : THE WITNESS: I guess you're talking about cash 15 | flow availability of flow, whatever. I don't know whether 16 they had problems or not, but there was the availability of money -- did affect the TMI 2 schedule, starting in '74, and we have got some -- I have got a summary which you haven't seen which I think if you would have no objection, we could turn over to these people. It's a history of the schedule, okay? We have the schedules and you will see when you review them, that --22 ||

schedule I could find. The completion date, whether it's fuel order or commercial operation, is significantly earlier

let's call it the original schedule, it's the earliest

Ace-rederal Reporters, Inc.

23

1 on that than it is on the later one. And we've got a history 2 of that, to the best of our ability to accumulate it, and it 3 wasn't accumulated for purposes of this meeting. It was a 4 history that we wanted to have and we do have of our assessment, 5 UEC assessment, about what impacted the schedule, what stretched 6 it out. 7 MR. EVANS: I'd appreciate receiving that. 8 [Discussion off the record.] 9 MR. EVANS: Back on the record. 10 BY MR. EVANS: 11 Off the record, Mr. Nagle, I believe you were talk-0 12 ing about the budget which GPU put United Engineers on in 1974. 13 Could you describe that a little bit more? 14 A Well, to the best of my recollection, it was some 15 time in mid-'74, probably in a meeting, whether it was formal 15 or informal, GPU informed us that the funds available for 1.00 Three Mile Island were whatever they were, were thus and so. And as I recall, there were, oh, maybe seven or eight broad categories that they had determined and they had budgeted the available -- what I assume were available funds for Three 21 Mile Island. They budgeted them in seven or eight broad 22 | categories and we sat down and reviewed it with them, and 23 they wanted us to make an assessme \_ of what impact this would 24 have, if any, on the schedule, and we did that. inc. 25 0 If there were financial concerns at GPU with regard

Reporte

Ace- edera

to its impact on Three Mile Island 2 unit, how would you become 1 aware of that, other than through the budget which you were put 2 3 on?

That's the only method, the only thing I could 4 A 5 think of.

Mr. Hewert, for example, didn't have discussions 6 0 with you as to the financial problems that the company was 7 having in financing Three Mile Island 2? 8

A No. You know, problems is your word, but I don't 9 think we had any prior to this point in time -- I'm talking 10 about mid-'74 -- to the best of my recollection. I don't 11 recall any discussion with Mr. Hewert to that end, but we did 12 sit down, as I say, with Hewert some time in mid-'74, and 13 reviewed this GPU situation as they determined it, and we 14 worked to that end. They established a budget, reviewed it 15 with us, and asked me for whatever impact that would have on 16 the schedule, if any.

MR. EVANS: I'm going to ask the reporter to mark as Exhibit 1107 a report entitled "Review of the Three Mile Island Unit 2 Construction Project," prepared by the Touche, Ross & Company.

> [The document referred to was marked Exhibit '107 for identification.]

24 Act Jeral Reporters, Inc. 25

24

22

11

. \*

### BY MR. EVANS:

. .

1

|                      | 2          | Q Mr. Nagle, just let me ask ycu, have you ever seen a        |
|----------------------|------------|---|
|                      | 3          | copy of what's been marked as Exhibit 1107?                   |
|                      | 4          | A [Witness examining document.]                               |
|                      | 5          | No.   |
|                      | 6          | [Discussion off the record.]                                  |
|                      | 7          | MR. EVANS: Let's go back on the record.                       |
|                      | 8          | BY MR. EVAINS:  |
|                      | 9          | Q Mr. Nagle, you told me that you've never seen a             |
|                      | 10         | copy of Exhibit 1107 before. Did you have any involvement     |
|                      | 11         | in the preparation of that report or any discussions with the |
|                      | 12         | people who prepared that report?                              |
|                      | 13         | A Well, I haven't seen it, and I don't know what's in         |
|                      | 14         | it. We did have some discussions with Touche, Ross relative   |
|                      | 15         | to Three Mile Island.   |
|                      | 16         | MR. SMOLENS: Whether it went into this report or              |
|                      | 17         | not, you don't know?  |
|                      | 4          | THE WITNESS: That's what I said, I don't know                 |
|                      |            | what's in it, so I don't know whether that went in it, but we |
|                      | <b>Q</b> 7 | did discussion with them relative to Three Mile.              |
|                      | 4          | MR. SMOLENS: Off the record.                                  |
|                      | 22         | [Discussion off the record.]                                  |
|                      | 23         | MR. EVANS: Back on the record.                                |
| Ace- Jaral Reporters | 24<br>Inc. | BY MR. EVANS:   |
|                      | 25         | Q Mr. Nagle, I have a few more questions in this area         |
|                      |            |   |

What role did Burns & Roe have in setting the schedules at Three Mile Island 2 while you were involved in the project?

A Well, Burns & Roe, as you must know, was the owner's engineer for Three Mile Island 2. They -- speaking for the period of time I was associated with the project, the construction schedule, preparation of construction schedule, the construction schedule, was -- the preparation of it was the responsibility of United Engineers, as I said earlier, reviewed with GPU and approved by GPU and by myself.

Burns & Roe didn't have any direct -- they didn't have any people working on the preparation of the construction schedule, but as far as their role, they, I assume, had a schedule of their engineering and the output thereof.

MR. SMOLENS: I think you said before that what Burns & Roe did, although you may not have mentioned them by name when you spoke earlier, what they did, did have some impact on scheduling on construction. What Burns & Roe did or didn't do, or the speed with which they did it --

THE WITNESS: Specifically he was asking as far as the preparation of the schedule. I think that's what you said, or was that my words?

MR. SMOLEN: No, that's what Mr. Evans asked. THE WITNESS: Maybe that was my words. Obviously Accerederal Reporters Inc. 25 the pace of the engineering output impacts the construction

| 25  |
|---|
| schedule. This was factored in by GPU.                            |
| BY MR. EVANS:   |
| Q Let me just ask directly: Did Burns & Roe repre-                |
| sentatives attend meetings that you had with GPU, in which        |
| construction schedules were discussed?                            |
| A Yes, from time to time, right, they did.                        |
| Q Were those meetings held on a regular monthly basis,            |
| or just at random intervals?                                      |
| A No, we had regularly scheduled monthly project                  |
| review or progress review meetings with Burns & Roe, GPU,         |
| UE&C in attendance, and of course we discussed schedules at those |
| meetings.   |
| Q From the earliest date of your memory with this                 |
| project, do you recall what was set as the date of commercial     |
| operation of Unit 2?  |
| A No, but I think we can find it in these either                  |
| that document we were referring to earlier, or in this stack      |
| of schedules.   |
| Q To your knowledge, did that date of commercial                  |
| operation slip through your involvement with the project?         |
| A It didn't slip because of my involvement, but while             |
| I was involved, the commercial operation date, if that's          |
| what we want to use, did slip.                                    |
| Q What is your understanding of the term commercial               |
|   |

Acercularal Reporters, Inc. 25 operation?

. \*

A My understanding of commercial operation is the 2 plant is capable of 100 percent output and it's integrated 3 into the system.

4 Q By integrated into the system, do you mean synchronize: 5 with the grid?

A Yeah. Uh-huh. It's available for 100 percent of power, it's available for use by the system. Commercial, that's the first time that the 100 percent power is available, and is integrated into the grid. That, to me, would be commercial operation. I'm not sure that's everybody else's interpretation of it, however.

Q Again, focusing on the time where you were beginning work on the project, did you have any difficulty in recruiting craft labor that was necessary for a project of this size?

Let me specify: difficulty recruiting labor for Three Mile Island Unit 2.

A The best that I recall, I don't believe we had any problem in manning with craft labor the Three Mile Island 2 effort.

Q You use all union labor, I believe you've said before?

22 A That's correct.

8.0

Q What is, in your opinion, or what was the most 24 difficult union to deal with in obtaining enough craft Actorederal Reporters, inc. 25 laborers for Unit 2?

1 A I'll say again, to the best of my recollection, 2 I don't think we had any particular problem in manning Unit 2. 3 At one point in time, we did have difficulty obtaining 4 steamfitter-welders, but I don't recall whether that was Unit 1 5 or Unit 2 combination. 6 To the best of my recollection, I don't think that 7 had any impact on Unit 2 schedule, and we solved that problem. 8 How did you solve it? 0 9 We solved it by dealing with the local union and A 10 the international. We also advertised, set up a recruiting 11 campaign, brought welders in from other parts of the country, 12 if you will, with the cooperation of the UA, United Association, 13 and the local. 14 1 Mr. Nagle, are you familiar with an incident 0 15 involving a faulty weld that was uncovered in an anchor bolt 16 at Unit 2? A No. 2 0 Were you aware that the NRC investigated such a faulty weld? A No. Q Are you aware of when I say anchor bolts -- let me 22 ask, are those everywhere in the unit, or in specific areas of 23 the unit? 24 No, anchor bolts are throughout the plant. A Ace-Federal Reporters, Inc. 1 25 One last question in this area: Were you contacted 0

8.1

bu\_

by anyone from the NRC in March of 1978 in connection with
an investigation into welding that had occurred at Unit No. 2?
A No, I personally wasn't contacted by NRC relative
to welding on Unit 2, and I doubt, best of my knowledge, no
one in UE&C was.
Q I'd like to turn to a slightly different area now
and ask you a couple of guestions about the subcontractors

8 who worked with UE&C at Unit No. 2, and I'd like you to 9 explain briefly, if you can, what area of responsibility or 10 work these subcontractors were involved in.

Could you tell me what AC&S, Incorporated did under subcontract with UE&C?

A To the best of my knowledge, AC&S is an insulating
 company, and they did certain portions of the insulation.

MR. SMOLENS: You used the phrase, Mr. Evans, "under subcontract with UE&C." Sometimes these people, as I understand it, may have worked as subcontractors for UE&C, but because of the nature of the UE&C's operation, very often they would be direct contractors with the owner.

Now I'm not sure as to the status of the company that you just mentioned, whether they would be a subcontractor or whether they would be a direct contractor with the owner.

BY MR. EVANS:

23

Ace-Federal Reporters, Inc. 25 and just ask what you know of their work at the site.

Can you tell me what Conam Inspection Division of 1 Nuclear Energy Services, Inc. did at the site? 2 | The main thrust of Conam's work was the non-3 A 4 destructive testing. Q Can you tell me what Oliver B. Cannon & Son, Inc. 5 did? 6 Painting contractor, special coatings. 7 A Can you tell me what M. J. Doyle did at the site? 8 0 9 Heating, ventilating and air conditioning. A Mr. Nagle, did UE&C prepare a final report, either 10 0 to GPU or for internal distribution, on its work at Unit No. 2 11 12 after it completed its responsibilities there? A When you say final report, any kind of final report? 13 A summary of its work and involvement at the site. 14 Q Well, we talked earlier about a summary of the 15 1 A schedule, okay? We also have a final revised estimate and 16 cost report prepared in accordance with the format that GPU established. Best of my knowledge, these two documents are the only ones that fit the general description of what you're

1 talking about as far as final report.

22 Q Did GPU request from you a specific report after 23 your work at the site ended?

Acerederal Reporters. Inc. 25 the Metropolitan Edison Company TMI Nuclear Station Unit No.

1 2 Final Revised Estimate and Cost Report.

2 Q Is that in any way comparable to a final accounting 3 of the contract, monies owed between the parties?

- A Which parties?
- Q GPU and UE&C.
- A No.

4

5

7

22.01

¥. s.

Q What is its purpose?

A Its purpose is it's basically a history of the cost 9 estimate, if you will. I guess that's not correct. It's 10 the final cost report and revised estimate.

And you're willing to make that available to us? A Sure. Well, not today. I don't know how in the hell we're going to reproduce that, but we can make it available.

Incidentally, all the documents that we have are also in the possession of GPU, to the best of my knowledge. At least they were given copies over the course of the job of all the documents that we're looking at today.

MR. SMOLENS: I think what Earl's getting at is you may have -- I don't know, either you or some of the other folks working on this, may have some of the stuff that you're asking us for. Not that we will use that possibility as a reason not to furnish them, I don't think.

BY MR. EVANS:

24 Q Mr. Nagle, let me ask you if any of the reports Acen edera Reporters, Inc. 25 which are present today or you have available, would allow us

1 to examine the number of overtime hours people worked at the 2 site while UE&C was involved. Is there a manpower chart, man-3 hours worked? 4 A I'm not sure, but I think you may find some informa-5 tion like that in this final revised estimate and cost report. 6 Q Can you describe for you -- excuse me. I didn't 7 mean to interrupt you. 8 MR. SMOLENS: No, go ahead. 9 THE WITNESS: Well, I can't find it immediately, but 10 I think that information is in there, at least in summary form. 11 BY MR. EVANS: 12 | 0 Can you describe for me your quality assurance 13 program, if one existed, for UE&C for work at the Three Mile 14 Island 2 site? 15 MR. SMOLENS: Do you want to specify what you mean 16 by describe it? As I understand, on the table in front of you are two volumes that encompass the quality assurance program, and I don't know what you mean or what you've asked Mr. Nagle to describe it, whether you mean to categorize it as weight or large. As you can see, it's quite a voluminous 21 compendium there which will be made available to you. 22 1 BY MR. EVANS: 23 1 Let me try to approach the question this way: 0 24 Did UE&C have a separate quality assurance, quality Inc. Ace-rederal Reporters 25 control program from that of GPU?

ì Yeah, we have. Like any nuclear jobs that I've A worked on, or aware of, the owner as the licensee has a QA 2 3 program or a QA plan which is submitted and approved by NRC, as far as I know, and then .e contractors or construction 4 managers prepare their own QA-QC plan in accordance with the 5 owner's commitment to the NRC through their plan, and what's 6 in front of you is the UE&C quality assurance plan and quality 7 control procedures for TMI 2. And we conducted our business 8 in accordance with this plan and procedures, and also, of 9 10 course, in accordance with the owner's QA plan.

Did that equire coordination between the two QA plans?

A No, our plan and procedures were in accordance with the commitment of the owner's plan to the NRC, so it wasn't a case of coordinating. These are also approved by the owner.

Q Let me just complete this by giving you a hypothetical situation. If something was detected through your QA program, would you then report to the licensee what had been found through your procedures? Or would you just make an attempt to correct the procedures?

A No, no -- say that again.

22

23

MR. EVANS: Would you read back the question?

Ace-recers! Reporters, Inc. 25 different guescion.

BY MR. EVANS:

2 Q If your QA program uncovered a problem, what would 3 be the next step?

A Any deficiencies or problems, as you call them, that were recognized through the implementation of our plan were brought to the owner's attention, if you will. There were no deficiencies that were handled unilaterally by UE&C or any of our contractors.

9 Q Do you recall while you were involved with Unit No.
10 2 whether deficiencies were in fact uncovered through the QA11 QC program of UE&C?

12 A Yes, there were.

13 Q Would you characterize those as being a large 14 number of deficiencies as compared to a similar size project 15 with which you've been involved?

A No, I wouldn't characterize them as that, no.

Q And all of these deficiencies were made known to the licensee?

A Oh, yes.

Q What was the vehicle for making those known?

A I think what you'll have to do is examine our QA plan and QC procedures in conjunction with the owner's. There is -- it's too difficult for me to describe it at this time, but it's all in those documents.

Ace aderal Reporters, Inc.

25

\* 2

1

16

Q Let me just ask a guestion on that. Was it -- was

the vehicle something in writing, or was it in formal meetings 1 2 or oral discussions? A No, everything was formal, everything was formal. 3 4 Everything was in writing. Q Can you tell me if any of those deficiencies 51 resulted in your involvement or discussions between UE&C and 6 7 the NRC? A I don't recall specifically, but they must have, 8 through the owner, you know. We're not the licensee, so our 9 association or interface with the NRC is through the owner. 10 Q At the time that you were working on Unit No. 2, 11 do you know if 10 CFR Part 21, that is requirement in the NRC 12 regulations that reports be made, were you -- was that in effect 13 while you were working on Unit No. 2? 14 A Can you tell me what date it was in effect? 15 Q I believe it was shortly after the Reorganization 16 Act of 1974. A I don't think 10 CFR 21 was in effect that early. I'm not quarreling with you, but the best of my recollection, 10 CFR 21, the implementation thereof, was required subsequent to our involvement at Three Mile Island. 11 22 Fine. 0 23 1 A Best of my recollection. 24 O Mr. Nagle, have you ever heard anyone discuss the Acerrederal Reporters inc. possibility of industrial sabotage at Three Mile Island Unit 25

T.2

····· 1 No. 2?

| and the second second                            |    |   |
|--|----|---|
|  | 2  | MR. SMOLENS: By the possibility, do you mean the                |
|  | 3  | possibility that it did occur, or the possibility that it       |
| (4)令<br>(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)( | 4  | might occur, and therefore should be watched out for? I'm       |
|  | 5  | not sure what you mean when you say the possibility.            |
|  | 6  | BY MR. EVANS:   |
|  | 7  | Q All of the above. What I'm after is                           |
|  | 8  | A I understand.   |
|  | 9  | Q Okay.   |
|  | 10 | MR. SMOLENS: Before you answer, have you got any                |
|  | 11 | better reading now on how much longer you're going to go?       |
|  | 12 | MR. EVANS: Off the record.                                      |
|  | 13 | [Discussion off the record.]                                    |
|  | 14 | MR. EVANS: Back on the record.                                  |
|  | 15 | On the record.  |
|  | 16 | BY MR. EVANS:   |
|  | -7 | Q Mr. Nagle, before we went off the record, I had               |
|  | 2  | asked you a question as to whether you were aware of any        |
|  |    | concerns of industrial sabotage at Unit No. 2.                  |
|  | 26 | A Any specific instances, you mean?                             |
|  | 21 | Q Instances of industrial sabotage which you're                 |
| ylain<br>Viiteen<br>Viiteen                      | 22 | aware of, but also people being concerned with the possibility. |
|  | 23 | A Okay, I'm not aware of any specific instances of              |
| Ace ederal Reporters,                            | 24 | industrial sabotage, to the best of my recollection. I don't    |
| ALE SUPER REPORTERS,                             | 25 | recall any discussions about specific instances of industrial   |
|  |    |   |

1 sabotage. 2 MR. EVANS: Off the record. 3 [Discussion off the record.] 4 THE WITNESS: As far as an awareness, you know, we do have -- we did have a security plan. We did have a security 5 force, and one of the purposes of having the plan and the 6 force was to prevent industrial sabotage, among other things. 7 But I don't recall any specific instances, either in discus-8 sion of them or in fact instances of industrial sabotage at 9 10 Three Mile Island 2. 11 BY MR. EVANS: Let me ask one question, and we'll complete this 12 1 0 13 and take a break: 14 I'd like to make a statement, and then have you 15 comment upon it. 16 The statement is that UE&C was concerned that craft laborers might attempt to intentionally damage work that had been done at the site in order to prolong their work schedule at the site, and for that reason UE&C was concerned with that type of, if you will, industrial sabotage. Would you comment on that statement? A Is that your statement? That's a statement that 22 somebody made? Q It is a statement. Do you have any comment on it? 22 Acen ederal Reporters. inc. 25 A No, I don't think our concerns for industrial

\* \* · · · · · ·

1 sabotage at Three Mile Island 2 were any greater than at any 2 of our other projects. I'm not sure -- are you saying that 3 that's a statement that someone had made, or that's your state-4 ment? Or that's a statement that's attributed to UE&C? Q It is not a statement that has been attributed to 5 6 UE&C. 7 A Okay. I don't think -- I don't know if this is the 8 answer to your question, but I don't think our concerns 9 about industrial sabotage were greater than at any of our 10 other nuclear projects. 11 Would you say they were not directed toward the 0 12 fear of what craft laborers were doing? 13 There's always that concern, but again I don't think A 14 it was any greater at Three Mile Island 2 than anywhere else 15 in my experience. 16 MR. EVANS: Let's take a five-minute recess, and I'd like to state on the record that I have promised the

participants in this interview that we will be done at 12:30 today.

[Recess.]

+ +

MR. EVANS: Let's go back on the record, and attempt to hit areas which we might have missed.

BY MR. EVANS:

23 1

Activation adderse Reporters, Inc. 25 involvement with Unit No. 2, anyone expressed to you the

|               | 38  |
|---------------|---|
| 1             | concern that the construction schedule was being rushed, that   |
| 2             | too much was being done too quickly?                            |
| 3             | A No. Nobody did.   |
| 4             | Q Would you characterize your instructions, your                |
| 5             | scheduling directions from GPU, as being indicative of a rush   |
| 6             | to complete that unit?  |
| 7             | A No more than was normal in my experience.                     |
| 8             | MR. EVANS: Mr. Vandenberg has some questions in                 |
| 9             | other areas.  |
| 10            | BY MR. VANDENBERG:  |
| 11            | Q Thank you.  |
| 12            | Mr. Nagle, the questions I have, some are clarifica-            |
| 13            | tions of things we've talked about this morning, and a couple   |
| 14            | of new areas.   |
| 15            | Back on the contract dated March 1st, 1969, we                  |
| 16            | talked about earlier, I believe you referred to that as being   |
|               | your original contract. Was it amended during the time UE&C     |
| .5            | was at the site?  |
|               | A It could have been. There could be some amendments;           |
| 22            | I'm not really sure. The contracts and amendments usually       |
| 21            | are normally handled in UE&C by our Business Development group. |
| 22            | Q And in the document prepared by Planning &                    |
| 23            | Scheduling Department in September 1977, could you clarify for  |
| 24            | me the meaning of the columns target system operation and       |
| s. Inc.<br>25 | forecast system operation?                                      |

÷

1 K. V.

\* 2

Ace- ....era' Reporters,

|                             | 39  |
|-----------------------------|---|
| •• •• 1                     | MR. SMOLENS: Those are separate questions, two                  |
| 2                           | separate columns.   |
| 3                           | THE WITNESS: Yeah.  |
| 4                           | [Witness examining document.]                                   |
| 5                           | Okay. I don't think I can specifically one of                   |
| 6                           | these may be a misnomer here. The best that I recall, at        |
| 7                           | some point during the "onstruction of Unit 2, we established,   |
| 8                           | GPU established two discrete names for completion, if you       |
| 9                           | will, okay?   |
| 10                          | Now let me try to explain that. To the best of                  |
| 11                          | my recollection, target system operation was the date that      |
| 12                          | the project, if you will, being generic, the construction, that |
| 13                          | was the commercial operation date, for purposes of our          |
| 14                          | scheduling.   |
| 15                          | This forecast system operation, I don't believe                 |
| 16                          | that's the correct term. I think we had GPU used in addition    |
|                             | to target system operation, which the project activities were   |
|                             | directed towards completion of the plant, GPU had another date, |
|                             | I think they call it their financial planning date, which was   |
|                             | some months later than the date we were working towards, as     |
| 21                          | far as construction of scheduling.                              |
| 22                          | BY MR. VANDENBERG:  |
| 23                          | Q Well, let me see. This report was prepared by UE&C            |
| Ace-Hederal Reporters, Inc. | is that right?  |
| 25                          | A Uh-huh.   |
|                             |   |

1 Q Did UE&C contemplate that its work under this March 2 1st, 1969 contract would continue up to the commercial opera-3 tion date? 4 A I think you'd have to look at the contract as to what was contemplated, you know. I didn't participate in the 5 6 contracting for the unit. 7 Well, when did you expect UE&C's work to terminate 0 absent a replacement by the other constructor? 8 9 MR. SMOLENS: Excuse me, would you read that back, 10 1 please. 11 1 [The reporter read the record as requested.] 12 MR. SMOLENS: I'm going to suggest, and Mr. Nagle 13 can correct me if I'm wrong, it seems to me that your question 14 can't be answered unless you want to tell -- give Mr. Nagle a 15 date at which time he thought UE&C's work would be completed. 16 Because, as I gather, Mr. Nagle said in response to some guestions from Mr. Evans, the date changed from time to time. Your expected completion date changed from time to time, didn't it, Earl?

\* ; <sup>1</sup>

1.1

23 1

THE WITNESS: Yeah, but -- are you asking -- you're not asking for a date, you're asking for an event; is that correct?

MR. VANDENBERG: That's correct.

THE WITNESS: Not specifically a date, but we Ace-Federal Reporters, Inc. 25 contracted to build a plant, and he's asking, you know, when

1 did we expect to leave? At fuel load, commercial operation, 2 so forth? Is that what you're asking? 3 MR. VANDENBERG: Exactly. MR. SMOLENS: And what I was suggesting was that 4 5 your notion as to when you would be leaving or when you would be completed, your notion as to when that would occur would 6 change from time to time, I thought. Or am I wrong? 7 THE WITNESS: The date would change, right. 8 0 MR. VANDENBERG: The date would change, but would 10 the event change? 11 1 THE WITNESS: I don't think the event would change. Now let me just reiterate what I said. You know, 12 13 I didn't participate in writing the contract, so I guess I don't know really what the intent was of the contract, but I 14 15 would assume the intent was that we were to carry the construc-16 tion of the job from whatever the -- you know, construction 1.00 permit, or we did some limited work authorization type of stuff from the time we actually started to work in the field 2 1 through commercial operation, my definition of it. Recognizing that, you know, basically -- not basically. If you're going to load fuel, the plant is complete. Okay? So the way I understand this business, and the way I've worked on this 22 1 12 and other nuclear plants, at fuel load construction is complete. You're not going to get a permit to load fuel if 24 Ace-rederal Reporters. inc. 25 your construction is not complete. Okay?

\* +

|   | 1.1 |  |
|---|-----|--|
| 1   | 1   | We did have, perhaps not when that contract was                  |
|   | 2   | signed, but we did have some people involved under the direction |
|   | 3   | of GPU in their test and start-up program, probably even through |
|   | 4   | power range testing, but saying again it would be my assumption  |
|   | 5   | when we contracted to do the work, it was from start of the      |
|   | 6   | construction through commercial operation. At that point in      |
|   | 7   | time we were finished, recognizing that we had very, very little |
|   | 8   | input other than start-up engineers working with GPU from        |
|   | 9   | fuel load to commercial operation.                               |
|   | 10  | BY MR. VANDENBERG:   |
|   | 11  | Q During the last couple of years when you were                  |
|   | 12  | there at the TMI site, who was your prime contact from the       |
|   | 13  | GPU companies?   |
|   | 14  | A Mine?  |
|   | 15  | · Q Yes.   |
|   | 16  | A Dick Hewert.   |
|   | 17  | Q And could you also describe your contacts, Mr.                 |
|   | \$  | Nagle, with NRC during your time you had responsibilities for    |
|   |     | TMI 2?   |
|   | **  | MR. SMOLENS: Mr. Nagle's personal contacts?                      |
|   | 21  | MR. VANDENBERG: Yes.   |
| An<br>Antonia<br>Antonia<br>Antonia   | 22  | MR. SMOLENS: Okay.   |
|   | 23  | THE WITNESS: Well, I had very little direct                      |
| Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print<br>Print |     | contact with NRC. You're talking about me, personally, or        |
| Ace-rederal Reporters,  |     | the UE&C organization, or both?                                  |
|   |     |  |

BY MR. VANDENBERG:

1 . . . . .

1

2

3

Q Why don't we do both? Let's do both.

A Let's do both. That's easier.

We had no direct contact with AEC or NRC at Three Mile Island, other than through the owner. Basically our contact was during the periodic audits, NRC audits. We were asked to participate in whatever manner the owner decided was necessary in the audits, and the exit interviews, and a disposition of any findings.

There was no unilateral association or contact between NRC and UE&C. That's to my knowledge.

12 Q When you say unilateral, you mean any contacts, 13 that you just decided to contact NRC, and there was none of 14 that?

A Not to my knowledge.

Were you present for any testing of components or other kinds of testing of equipment at TMI 2, as opposed to the construction?

A UE&C?

Q Yes.

A We did -- we had a -- some 30, 35 test and startup engineers working directly with GPU. This was separate from our construction effort.

Act-rederal Reporters, Inc. 25 25 25 25 25

1 A I think it might have been an amendment, okay? And 2 it might have been an amendment to this contract or to Unit 1 3 contract, I'm not sure. But that's immaterial. But the point 4 is we did have 30, 35 test, start-up people working on the 5 GPU test, start-up organization under the direct supervision 6 of the GPU test superintendent, if you will. 7 And they may have been working on Unit 1? 0 8 They worked on Unit 1, they worked on Unit 2. A 9 Thank you. 0 10 Did UE&C experience any difficulties in purchasing 11 the materials that were needed to construct TMI 2? 12 What sort of difficulties? A 13 Difficulties in getting materials on time; difficulty 0 14 in obtaining materials at all; difficulties with quality. 15 I think the answer to all those has to be yes. A 16 I don't think they were abnormal difficulties, but, you know, obtaining materials is always a problem. Timely delivery thereof. Was there one kind of material that was especially a 0 problem? 23 Not that I recall. We didn't, you know, we didn't A 22 1 purchase everything for Three Mile Island, and I'm not 23 ! prepared to list things that we did buy. But in general, the

Ace-rederal Reporters, Inc.

24

25

· . . . . .

by the owner to specifications written by their engineer.

engineered -- what I call engineered items were purchased

Nuclear steam supply system is one; turbine generator pumps,
 valves. In the main, any of that engineering equipment was
 purchased by GPU. Actually it was purchased by the member
 companies, either Met Ed or Jersey Central, to requisitions
 by Gilbert or Burns & Roe.

We did buy some valves, small valves, reinforcing, that type of thing. But I'd say we didn't have any more than the normal difficulties.

9 Q Do you recall who the UE&C purchasing agents were 10 for the TMI 2 project?

A Well, we had some -- we had Home Office purchasing.
 What do you want? Names?

Q Yes.

13

1 . . . .

A Home Office Purchasing, our purchasing manager is Bd Case. Home Office buyer, early on, I think was Art Gilbert, and we have field purchasing agents on most of our jobs, and we did at Three Mile Island 2, and we had several during the course of the job. Joe Cane, and any of the other names escape me. But we had three or four others.

Q I have one last question, Mr. Nagle. Could you describe the change, if any, of the responsibilities for construction of TMI 2 among UE&C, GPU Service Corporation, and Metropolitan Edison, as the project progressed?

Ace:/ ederal Reporters, Inc. 25 what you mean.

1 Q Did you see any change in the division of responsibilities for completing TMI 2 among UEC, GPU Service 2 3 Corporation, and Met Ed? Did one of those companies perhaps take a larger share of overseeing or directing the project? 4 5 Compared to Unit 1, did you say? A No, just compared to the time you started your work 6 0 7 there. MR. SMOLENS: Larry, I take it what you're asking 8 Mr. Nagle is whether there was during the time that he was 9 involved in the project, a shifting of responsibility from 10 one or another among those three entities that you mentioned. 11 12 Is that what you are asking? 13 MR. VANDENBERG: That's another way of saying it. 14 MR. SMOLENS: Whether there was any shifting of 15 responsibility to or from UE&C, Met Ed, GPUSC, I think were 16 the three. THE WITNESS: Well, I only go back to December '70. At that time, as I mentioned earlier, I dealt with the Met Ed project manager, okay? GPU Service Corporation, I had no contact with him. I've not even sure they had a service corporation at that time. And I think that continued for 22 1 about a year with this fellow Bierman. He was the project manager for Met Ed, if you will.

Actorederal Reporters. Inc. 25 formed, to the best of my recollection, and they changed

the management of the project from Met Ed to GPU Service 1 2 Corporation. And at that time Bierman left, and Hewert came in. 3 He was an employee somewhere in their system, but he wasn't 4 project manager for Three Mile Island 1 and 2, when I first 5 got onboard, and I think it was about a year later the 6 service corporation was formed and implemented. And some time shortly thereafter, Hewert was assigned as project manager, 7 8 and Bierman went elsewhere.

> That's the only change that I can think of. BY MR. VANDENBERG:

Q Did that change affect the kind or quality of direction that UEC was given?

A Yeah, I think it did. At least the change in individuals. I don't know whether it had anything to do with the corporate change or not. But, you know, in my opinion, Hewert was a more astute manager than Mr. Bierman was.

BY MR. EVANS:

Q Final question:

. ...

. .

0

10

- ----

22 1

You mentioned the involvement of UE&C test engineers. Did you receive reports from them in addition to their direct line authority to the GPU people?

A Let me try to answer that this way:

The best that I recollect, they got their 3 24 ederal Reporters, inc. 25 GPU test supervisor. They were on site, they were UE&C

employees, so administratively we controlled them through 2 our resident manager. I don't recall receiving reports 3 directly. Reports would be available to me. I may have received copies of them, but I'm sure that the -- I'm not 4 sure what kind of reports you're talking about. There were 5 many kinds of reports, but the -- we have a manager of that 6 test start-up group in the home office, and all of our test 7 engineers are assigned to projects by him, and they work -- they 8 9 report directly to him.

So in this case they'd be working their day-to-day work at Three Mile Island under GPU test supervisor, but they also have a parallel reporting responsibility back to their manager here in Philadelphia, which doesn't mean that every report that was generated -- at least I don't think so -- came back here, but they were all available.

And you personally didn't look at those tests -when I mean report, I mean the results of the tests which they
were involved in, and it's my understanding that those might
find their way back here.

A Yeah, they could be available, they could find their way back here.

22 MR. SMOLENS: This is start-up testing we're talking about, is it?

24 Ace-rederal Reporters, Inc. 25 test results and so forth were not reported on a case basis

|      | 171       |  |
|------|-----------|--|
| ** . | 1         | back here. I'm sure there was a reporting responsibility on  |
|      | 2         | a monthly basis or a weekly basis between our lead test      |
|      | 3         | start-up man and his manager back here in Philadelphia.      |
|      | 4         | As far as I was concerned, there was no great need           |
|      | 5         | for me to get reports of the test start-up program. It       |
|      | 6         | wasn't my responsibility. It was the responsibility of the   |
|      | 7         | test start-up program, lies solely with the GPU Service      |
|      | 8         | Corporation and test superintendent.                         |
|      | 9         | BY MR. EVANS:  |
| 1    | 10        | Q Let me ask you, Mr. Nagle, as a representative of          |
| 1    | 11        | UE&C if you'd be willing to locate those monthly reports for |
| 1    | 12        | us and make them available.                                  |
|      | 13        | A Which monthly reports?                                     |
|      | 14        | Q The monthly reports which I understand you to              |
|      | 15        | suggest were made available                                  |
|      | 16        | MR. SMOLENS: May have been made available.                   |
|      | •         | BY MR. EVANS:  |
|      | 4         | Q may have been made available, Mr. Smolens has              |
|      |           | corrected me to your start-up, manager of start-up services  |
|      | :         | here at UE&C from the people at Unit No. 2.                  |
|      | 21        | A Yeah, if they do exist, we'll make them available.         |
|      | 22        | Q Fine. Thank you.   |
|      | 23        | A Remember, now, I said I would assume that they             |
| Act  | 24<br>Inc | had some reporting responsibility back here.                 |
|      | 25        | Q I understand, and I'm not asking you to create             |
|      |           |  |

something that doesn't exist. But we'd like to see it. 1 2 A Ohar . 3 Mr. Nagle, have you talked with anyone else with 0 regard to the Three Mile Island 2 accident? The President's 4 5 Commission, or any other investigation group? 6 MR. SMOLENS: Excuse me. Do you mean official organizations? You don't mean cocktail party chitchat or 7 8 things of that sort, do you? You mean has Mr. Nagle been 9 interrogated by folks much as you are doing now? Is that what 10 vou mean? 11 MR. EVANS: I accept that definition of the question. 12 THE WITNESS: No, I haven't, no. 13 BY MR. EVANS: 14 1 Do you have any other information regarding the 0 15 Three Mile Island plant or the accident which should be made 16 available to us? - ----Not to my knowledge. A Q 14 Do you have any areas you think we should be looking 0 at in the future as we continue this investigation? A No. 21 Mr. Nagle, at this time, barring any further 0 22 questions or any comments that your counsel would like to 23 make, I'm going to recess this deposition, rather than 24 terminate it. It is our intention to complete all our inc 25 questions here today, but if we uncover new areas in the

\* et . \*

Jeral Reporters

|            | 10  |
|------------|---|
|            | <sup>1</sup> future which we'd like to go into, we'd like to call on you  |
|            | <sup>2</sup> again.   |
|            | 3 I will note for the record that Mr. Smolens                             |
|            | <sup>4</sup> believes this is not in the formal sense a deposition, but   |
|            | <sup>5</sup> nonetheless I would like to leave this open, should the need |
|            | <sup>6</sup> arise for further questions.                                 |
|            | 7 A I don't have any  |
|            | 8<br>MR. SMOLENS: It doesn't require any comment, Earl.                   |
|            | 9 We will take note of your comment, Mr. Evans.                           |
|            | MR. EVANS: Thank you very much.   |
|            | [Whereupon, at 12:30 p.m., the deposition                                 |
|            | was adjourned.]   |
|            | 13  |
|            | 14  |
|            | 15  |
|            | 16  |
|            |   |
|            |   |
|            |   |
|            |   |
|            | 22  |
|            | 23  |
|            | 24  |
| Reporters. | 25  |
|            |   |
|            |   |

Jera

Ace