UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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| 1 | In the | Matter of: | | |
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| 2 | IE TMI | INVESTIGATION INTERVIEW | | |
| 3 | of | Mr. James C. Deddens Manager of Project Management Dep Babcock and Wilcox Corporation Nuclear Power Generation Division | | |
| 5 | REPRESE | NTATIVE | | |
| 61 | | Mr. Byron D. Nelson | | |
| 7 | | Assistant Council Babcock and Wilcox Corporation Nuclear Power Generation Division | | |
| 9 | | | Trailer #203 | |
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SHACKLETON: This is an interview of Mr. James C. Deddens. Mr. Deddens is 1 presently Manager of Project Management Department of the Babcock and 21 Wilcox Corporation, Nuclear Power Generation Division, headquartered in 3 Lynchburg, Virginia. The date and time of this interview is May 9, 1979, 41 and we are beginning this interview at 10:44 a.m. eastern daylight time. Present to conduct this interview from the U. S. Nuclear Regulatory Commis-6 sion is Mr. James S. Creswell. My name the first name is Owen Shackleton. 71 I am an investigator assigned to Region V. Just prior to starting this interview on tape I presented to Mr. Deddens, for his review, a two page document from the U. S. Nuclear Regulatory Commission, which outlines the scope and purpose of this investigation and explains the authority of the U. S. Nuclear Regulatory Commission to conduct this investigation. In addition, this document advises Mr. Deddens of his rights to refuse to be interviewed and to refuse to submit any form of a signed statement. The document further advises Mr. Deddens that he has the right to have someone of his chosing present during the course of this interview. Present at Mr. Dedden's request is Mr. Byron D. Nelson. Mr. Nelson is the Assistant Council for the Babcock and Wilcox Corporation, the Nuclear Power Generation Division, at Lynchburg, Virginia. On the second page of this two page document are three questions all of which Mr. Deddens has answered in writing to the affirmative. At this time I'm going to request of Mr. Deddens to respond to these questions orally for record on the tape. Mr. Deddens did you understand the text of this two page document?

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DEDDENS: Yes.

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SHACKLETON: And does the United States Nuclear Regulatory Commission have your permission to tape this interview?

DEDDENS: Yes.

SHACKLETON: Would you like a copy of the tape?

DEDDENS: Yes I would.

SHACKLETON: Alright sir that will be provided to you and I will send it 12 through the mail. This interview is being conducted in the offices of the 13 Babcock and Wilcox Corporation, the Nuclear Power Generation Division, in 14 Lynchburg, Virginia. At this time Mr. Deddens for the purposes to give 15 your background, for the understanding of those persons who will be listening 16 to the tape the information you are providing would you please give us 17 briefly your background as to education and work experience in the nurlear 18 field. 19

DEDDENS: I'm a graduate of the ah University of Louisville, Louisville, Kentucky, with a Bachelors Degree in Mechanical Engineering which I obtained in 1952, and a Masters Degree in Mechanical Engineering, which I obtained in 1953 from the University of Louisville. I'm also a graduate of the Oak Ridge School of Reactor Technology in the 1953-54 class. After completing

the year of schooling at Oak Ridge, I was employed by the Babcock and 1 Wilcox Company in September of 1954. Since that time I've held various 2 positions with Babcock and Wilcox starting initially on the design of the 3 Indian Point Unit 1 reactor. From there I progressed through a variety of 4 positions such as Project Manager for the Indian Point 1 reactor project, a 5 period of time as a Nuclear Marketing Specialist, Manager of the Nuclear 5 Service Department, later Manager of the Engineering Department and my 7 current position is Manager of the Project Management Department. 8 9 SHACKLETON: Thank you very much sir. And now I'll turn the interview over 101 to Mr. Creswell. 11 12 CRESWELL: Mr. Deddens who do you report to in the Nuclear Power Generation 13 Division Organization? 14 15 DEDDENS: I report to John McMillen the Vice President of Nuclear Power 16 Generation Division. 17 18 CRESWELL: And in relation to the Three Mile Island Unit 2 facility what 19 individual reports to you? 20 21 DEDDENS: Mr. Grant Ward is the Senior Project Manager for the Three Mile 22 Island Unit 2 contract. 23 24 25

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| CRESWELL: Do you have, do you discuss issues regarding Three Mile Island Unit 2 with Mr. Spangler also? DEDDENS: Not as a routinenot as a routine basis but in the case of a problem with the plant dealing with actual plant operations I would discuss that matter with Mr. Spangler. CRESWELL: Okay. Understanding that Project Management usually deals with contractual type of agreementsthat is your main orientation in that in Project Management is, it not? DEDDENS: Yes. CRESWELL: Toward the implementation of the contract? DEDDENS: Yes. CRESWELL: Who do you normally deal with in the Metropolitan Edison Organi- zation or its parent company GPU regarding contractual agreements? DEDDENS: The contractors administer primarily through a General Public Utilities with Metropolitan Edison as the operating company responsible for the operation of the plant and also Metropolitan Edison is the licensee for the operation of the plant and also Metropolitan Edison is the licensee for the plant. Our dealings with GPU in the execution of this contract are primarily with their project people in Parsippany, New York. Pardon me Parsippany, New Jersey. | | |
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CRESWELL: Who would you customarily deal with in that organization? 1 21 DEDDENS: We would deal with ah with Mr. Bob Arnold who is Vice President 3 of operations at GPU, with personnel under him Mr. Dick Wilson. The Project 4 Personnel, I'd say someone in their legal department, Mr. Gordon Bond is 51 the Project Officer that we deal with in GPU. 61 7 CRESWELL: Okay thank you. At this point I would like to go back to the 8 date of March 28, 1979, and deal with your recollections during that day. 9 When did you first become aware that there had been an event at Three Mile 10 Island Unit 2? 11 12 DEDDENS: About 8:15 in the morning shortly after I had reported to the 13 office I was informed that there had been an occurrence at Three Mile 14 Island Unit 2 by Grant Ward who is the Senior Project Manager for this 15 project. 16 17 CRESWELL: What was the nature of the information that he related to you? 18 19 DEDDENS: Only that there had been a transient of some kind that there was 20 evidence of radioactivity released into the reactor coolant system which 21 may have indicated the possibility of core damage, and that there was going 22

to be a meeting taking place in about 15 minutes to discuss further what we

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knew about the occurrence.

| 1 | CRESWELL: That meeting would have been roughly 8:30 in the morning. |
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| 3 | DEDDENS: About 8:30 in the morning. |
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| 63 | CRESWELL: Who attended that meeting? |
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| 7 | DEDDENS: I'm not sure I can remember all the names, there was a combination |
| 8 | of Project Management people, Engineering Department people and Nuclear |
| 9 | Service Department people. There were perhaps ah twenty people involved. |
| 10 | |
| 11 | CRESWELL: I see. Where was the meeting held? |
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| 13 | DEDDENS: It was held in one of the Nuclear Service Department training |
| 14 | rooms. |
| 15 | |
| 16 | CRESWELL: Who, who assumed responsibility in the meetingwho directed |
| 17 | the activities in the meeting? |
| 18 | |
| 19 | DEDDENS: Mr. Spangler had most of the available information cause he had |
| 20 | been contacted by our site representative, Lee Rogers, had phoned Mr. Spangler |
| 21 | about 7:45 a.m. on March 28th. |
| 22 | |
| 23 | CRESWELL: What was the nature of the information that Mr. Spangler related |
| 24 | at that point in time? |
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| | 1944 (March 1944) |
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DEDDENS: He described the...in fairly general terms...because at that time we did not have a great deal of detailed information to go over, but he described in general terms the nature of the transient that the plant had gone through...the loss of feed water transient and information on the current plant status at that time, was shut down condition of the plant. General temperature pressure information which was relayed to him on the phone by Lee Rogers.

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CRESWELL: Do you recollect what any of those conditions were?

DEDDENS: No I don't specifically at that meeting.

CRESWELL: How long did this meeting last?

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DEDDENS: About twenty minutes and it was adjourned pending a call back from Lee Rogers which was scheduled for 9:00 that same morning.

CRESWELL: Were there any decisions made on your part as a result of this meeting?

DEDDENS: Yes there was...there were decisions made not necessarily by me alone ...but decisions made to dispatch to the job site technical personnel who are familiar with this kind of transient who could analyze this kind of transient when it had occurred on another reactor...they were sent to the job site with a special chartered plane so that they could get there as promptly as possible.

CRESWELL: What other transients had these individuals been involved in 1 that were applicable to this one? 2 31 DEDDENS: Loss of ... well specifically ... loss of feed water transients at 4 plants such as Oconee ... very similar in design to the Three Mile Island II 5 plant. 6 7 CRESWELL: So the decision to elect certain people was based on their 8 previous experience 9 10 DEDDENS: Yes. 11 12# CRESWELL: With similar events at other facilities. 13 14 DEDDENS: Yes. 15 16 CRESWELL: Were you involved in the selection process? 17 18 DEDDENS: They were recommended by the Engineering Department, personnel 19 and I concurred in their recommendation. 20 21 CRESWELL: Now the meeting lasted about twenty minutes, and after it was... 22 did you leave after the twenty minute time period? 23 24 25 682 088

DEDDENS: I left after the twenty minute time period I returned to Bill 1 Spangler's office at 9:00 to await the incoming phone call from tee Rogers. 2 3 CRESWELL: What time did Rogers...did the call come in from Rogers? 4 5 DEDDENS: The call did not come in precisely at 9:00 and the meeting was 6 moved from Lee Rogers office to another location which was a bigger, larger 7 room. The call came in approximately 9:30. 8 9 CRESWELL: Who was present then at that point in time? 10 11 DEDDENS: Again a fairly large number of people and the occurrence had 12 generated a good deal of interest. I was there, Dr. Roy, who's Manager of 13 the Engineering Department, Dr. Womack, the Manager of Plant Design Section, 14 Bill Spangler was there, and a fairly large number of people who were 15 familiar with the various aspects of the plant. 16 17 CRESWELL: And this meeting at 9:30 took place in what room 18 19 DEDDENS: In the Project Management Control Center. .. Project Control Center. 20 21 CRESWELL: What is the normal usage for this room? 22 23 DEDDENS: Well the usage of that room is to review data and schedules and 24 contractual information relative to our various contracts. It's equipped 25

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with charts and oraphs and things that you need most to properly manage our 1 21 contracts. Also equipped with communications equipment, speaker phones and so on and so forth. 3 4 CRESWELL: Was it about 9:30 that you received Rogers call? 5 6 DEDDENS: We received a call at 9:30 but it was not Lee Rogers it was from 7 Greg Schaedel also a B&W representative assigned to the TMI-2 plant. And 8 Greg was calling from his home but he had in turn been in touch with Lee 9 Rogers in the control room. 10 11 CRESWELL: What was the nature of the information that Mr. Schaedel relayed 12 to you? 13 14 DEDDENS: Again he revie d with us data that, concerning plant status that 15 he had received from a phone conversation conducted earlier with Lee Rogers 16 who was in the TMI-2 control room. And it was a report of plant status 17 involving temperatures and pressures around the reactor coolant system the 18 status of operating equipment high pressure injection pumps, reactor coolant 19 pumps, reported conditions such as the "A" steam generator being in service 201 but the "B" steam generator being isolated. I don't recall him having at 21 that time any significant information on radiation. 22 23 CRESWELL: For the information that he gave you what observations did you 24 make about the condition of the reactor coolant system?

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DEDDENS: That the that the reactor coolant system was in ah abnormal state relative to what we had observed before on plants having gone through this kind of transient. The temperatures and pressures were indicating super heated conditions in the reactor coolant system.

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<u>CRESWELL</u>: What were the discussions by the technical people that were present about the abnormal conditions that it could have been caused by?

<u>DEDDENS</u>: Well the...the concern was that...that the core was not being adequately cooled because the temperature and pressure conditions were indicating super heated super heating in the reactor coolant system and the presence of a possibility of steam existing in the reactor coolant system loop. We also obtained information on intensify the plant operating personnel to start reactor coolant pumps which were indicating low motor currents which then was an indication of the pumps were not pumping very much fluid. Again would indicate the presence of

CRESWELL: They were not pumping very much liquid.

<u>DEDDENS</u>: Liquid fluid right, which would again indicate the presence of steam or gas in the reactor coolant system loop. That focused our attention on status that could be taken to quench the steam bubble that might exist in that loop and to provide more adequate cooling. Which then directed our attention towards starting the high pressure injection pumps which at that point in time had been shut down by the operating personnel. Starting the

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high pressure injection pump and then provide a source of cooling water to the reactor coolant system would serve to reduce the temperature of the reactor coolant system and quench the steam bubble in existence. That was the principal thrust of our thinking at that time.

6 <u>CRESWELL</u>: Do you recall who made the recommendation that high pressure 7 injection should be used to accomplish this?

9 <u>DEDDENS</u>: I believe it was jointly arrived at after, by the experts there. After reviewing the data related to temperatures and pressures and motor currents...I don't recall any specific individual who said this is what ought to be done...but it was a joint recommendation of the technical experts.

15 <u>CRESWELL</u>: Was this recommendation conveyed to any individual at GPU or Metropolitan Edison Company?

DEDDENS: Yes it was. It was relayed to the control room by our group here to to our people at the site, Schaedel and Lee Rogers. Also during that time we asked that Lee Rogers call us directly right away rather than calling Greg Schaedel calling us so we could have a more direct communication path to the control room. The information was relayed at that time to the control room by that path.

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| 1 | CRESWELL: Was Mr. Floyd of the Metropolitan Edison Company present in this |
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| 2 | particular meeting? |
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| 4 | DEDDENS: I don't believe he was present at that particular meeting. He |
| 5 | was present later on. |
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| 7 | CRESWELL: About what time would you estimate that he was involved? |
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| 9 | <u>DEDDENS</u> : Oh 10:00 or 10:30. |
| 10 | |
| 11 | CRESWELL: Was between the time of 9:30 and 10:00 to 10:30 were you involved |
| 12 | in this meeting continuously or |
| 13 | |
| 14 | DEDDENS: Yes I was. |
| 15 | |
| 16 | CRESWELL: When Mr. Floyd arrived what sort of discussions resulted from |
| 17 | his arrival? |
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| 19 | DEDDENS: Mr. Floyd had been had been in Lynchburg to undergo refresher |
| 20 | training on our simulator and he had been in touch with the the Three Mile |
| 21 | Island plant by a separate communications path and had been spending some |
| 22 | time trying to duplicate the transient on our simulator here. When he came |
| 23 | into the room he relayed having knowledge that the auxiliary feed water |
| 24 | block valves were not opened until about 8 to 10 minutes into the transient. |
| 25 | They were supposed to be open but they were not. I recall him discussing |
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1 that aspect of the occurrence. He had some success in duplicating the 21 transient on the simulator. And so it was just a general discussion on along those lines. 31 4 CRESWELL: You indicated that Mr. Floyd had some path of communication with 5 the TMI Unit 2 facility. Did he indicate what that path of communications 6 was? 7 8 DEDDENS: No he didn't. He just indicated that he had been in touch with 9 personnel at TMI-2. 10 11 CRESWELL: During these discussions was he advised by the S&W personnel to 12 make certain recommendations to the plant? 13 14 DEDDENS: My recollection is that we discussed with him increasing high 15 pressure injection flow into the reactor coolant system. 16 17 CRESWELL: Were there any other recommendations to your knowledge given to 18 Mr. Floyd? 19 201 DEDDENS: I don't recail... I don't recall any other specific recommendations 21 being made but that one was the was the principal recommendation that we 22 were making at that time and was the was the single most important recommen-23 dation in our judgment. 24 25

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CRESWELL: During the period of time of ... or the day of March 28, 1979, did 1 you personally contact any official of GPU or Metropolitan Edison? 21 3 DEDDENS: Yes I did. I personally talked with ah with several individuals 4 at GPU, I contacted Mr. Bob Arnold, Vice President of General Public 5 Utilities who at that time was in his office in Parsippany. 6 7 CRESWELL: About what time would that have been? 8 9 DEDDENS: We had several conversations during the day. The first one, the 10 first conversation between myself and Bob Arnold, was I think about 2:00 in 11 the afternoon. 12 13 CRESWELL: What was the nature of your discussion with Mr. Arnold? 14 15 DEDDENS: The nature of that discussion was to review the situation as we 16 understood it to compare information that we had with him and to relay our 17 recommendation regarding steps that we ought to be taking specifically to 18 increase the high pressure injection flow to get more cooling in the reactor 19 coolant system. 20 21 CRESWELL: Did you discuss with him the startup of a reactor coolant pump? 22 23 DEDDENS: In a later conversation we did discuss that, not at the first 24 conversation we were concerned with getting water back in the reactor 25

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cooling system, getting it cooled, punching the bubble, and getting the system solid. And then a later conversation I had with him which was perhaps between 4:30 and 5:00 we discussed starting a reactor coclant pump. CRESWELL: During your discussions with Mr. Arnold in recognizing that you in the course of your conduct of your business you deal with contracts did you discuss contractual agreements relating to recommendations of work or in general the definition of the B&W, GPU or Metropolitan interface regarding the event? DEDDENS: From a NELSON: Excuse me sir, this is Byron Nelson, I don't quite understand are you asking Jim to give an interpretation of the contract? CRESWELL: No I'm not asking if he...to for him to interpret the contract the question that I'm asking...could you identify yourself? SHACKLETON: Yes he did. CRESWELL: Oh I'm sorry. I'm asking him if contractual matters were discussed? NELSON: Fine thank you.

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DEDDENS: No they were not. Our discussions centered around the condition of the reactor coolant system and the technical questions concerning that and recommendations regarding what steps ought to be taken to bring reactor to a safer shut down condition.

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CRESWELL: So they ... how would you characterize B&W's position regarding providing recommendations or support as you related it to Mr. Arnold?

DEDDENS: Well we were very concerned about the condition of the reactor at 9 that point, we were primarily concerned with achieving a cold shut down 10 condition and we were drawing upon our experience with the designer of the 11 reactor coolant system and our experience with the operation of similar 12 reactors and our capability to provide technical support to our customer as required.

CRESWELL: So there was no reluctance on the part of B&W to provide 16

DEDDENS: No reluctance at all which I think was demonstrated by the large number of people we sent to the site, the large number of people we had involved in this occurrence, that from the very beginning of it and the the unqualified support we had provided to the customer.

CRESWELL: Going back to the point in time which these people were dispatched these basically three people earlier in the day Mr. Winks and Mr. Kelly and Mr. Twilly, did you personally give them any instructions on what there 682 097 responsibilities would be when they arrived there?

DEDDENS: I personally did not.

CRESWELL: Are you aware of any instructions that were given?

DEDDENS: Not directly.

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<u>CRESWELL</u>: You had mentioned that you had a 2:00 or approximately 2:00 p.m. discussion with Mr. Arnold and then about 4:30 to 5:00 you again had a discussion about starting a reactor coolant pump. What were these forms... these discussions were they in the form of a recommendation that they perform certain operations?

DEDDENS. Yes the second phone call I had with Mr. Arnold was again to 13 emphasize our recommendation that high pressure injection be initiated. In 14 conversations with the control room, we had, we were given the information 15 that they had not yet started high pressure injection. So the second phone 16 conversation I had with Mr. Arnold was to further emphasize the importance 17 of that recommendation. And it was at that time that he reported to us that 18 pressure injection had been initiated. There was a time lag between our 19 last conversation with the control room and that conversation with Bob 20 Arnold. In the meantime, high pressure injection initiation had been 21 started. Then following that, we were back in touch with the control room 22 and the conversation... the main topic of conversation at that time was 23 placing one of the reactor coolant pumps in service. The principal thrust 24 of that conversation was how to proceed to get the pump in service, things 25

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1 such as establishing seal injection flow and there was concern about the 21 presence of steam or gas in the upper leg of the reactor coolant system 3 piping...the hotleg piping and whatever not steam bubbles or gas bubbles when through the suction of the pump 4 and what possible effect that might have on the pump and so we did work out 5 a procedure with the control room on sequence to go through to start a pump 6 and what to look for and what to monitor in starting the pump. We, when we 7 had those worked out and agreed to I had another conversation with Arnold 8 relative to that evolution. 9

CRESWELL: About what time would that conversation have been?

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DEDDENS: That would have been I would say about 5:00 in the evening. I 13 reviewed with Mr. Arnold the sequence of events that we had discussed and 14 relayed to the control room and basically that was initially to bump one of 15 the pump to start it for only five to ten seconds then shut it down, 16 observe the parameters and then if everything appeared to be normal then we 17 would start a pump and let it run. We reviewed those and Bob Arnold concurred 18 on the recommendation and then went back to the phore conversation in our 19 control room here and asked them to go ahead and star the pump, which they 20 did. 21

23 <u>CRESWELL</u>: You had earlier stated I believe that there had been a recommendation to start reactor excuse me, high pressure injection and the later conversation you had determined from Mr. Arnold that it had not

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DEDDENS: With the control room ... we determined with the control room that 1 it had not started. 21 31 CRESWELL: Okay. 4 5 DEDDENS: And that prompted that call back to Mr. Arnold to get our recom-5 mendation in at the executive level of GPU so that it we go to the control 7 room in a forceful way. 8 9 CRESWELL: Did Mr. Arnold indicate any reluctance about performing that 10 operation? 11 12 DEDDENS: No. No. 13 14 CRESWELL: That is to establishing high pressure injection. Okay. Did you 15 have any discussions with Mr. Arnold after 5:00? 16 17 DEDDENS: I had one additional discussion with him saying that this was 18 after the reactor coolant pump had been started and temperatures and pressures 191 around the loop had stabilized I called him back and reported that that we 20 felt the starting of the pump was a successful evolution and that the 21 reactor coolant system appeared to be in stable condition, that we were 22 satisfied with the conditions of the reactor at that time and I gave him a 23 series of names and phone numbers who would be available including my home 24 as we continued to monitor the operation during the night so that if during 25

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the night he wanted to get in touch with me or his people wanted to get in 11 21 touch with our people here they would have communication path established. 31 CRESWELL: Were there any discussions with any other officers of ah GPU or 4 Metropolitan Edison Company? 5 6 DEDDENS: Ah no, not by me personally. My contact with their offices was 71 with Bob Arnold. 8 9 CRESWELL: During the time period from say 8:00 in the morning of March 28. 10 1979 till approximately 5:00 did you have any discussions with your superior 11 regarding the events at Three Mile Island? 12 13 DEDDENS: Yes I did. I don't recall the exact time, he was on vacation at 14 the time, needless to say it ruined his vacation, and I believe he called 15 in. 16 17 CRESWELL: And that would have been? 18 19 DEDDENS: Sometime in the afternoon. I'm not sure I'm not sure when it 20 was. At one point my recollection is that it was on the 28th, it may have 21 been the 29th, but during during one of those calls he called in and I had 22 Bob Arnold on the phone at the same time and so I connected the two together 23 in a conference call and we all talked. I believe that was on the 28th I'm 24 not positive. 25

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CRESWELL: What was the nature of those discussions? 1 2 DEDDENS: A review of the situation? I recall there was a discussion of 3 communication paths and the need to establish round the clock communications 4 and a general review of the situation. 5 6 CRESWELL: Was the matter of Babcock and Wilcox Company's posture relating 7 to providing of information, recommendations, analysis, discussed during 8 that discussion? 9 10 DEDDENS: In a general way it was. We did discuss the steps we were 11 taking here to establish round the clock coverage and attempts to improve 12 our communications both with the control room and with the GPU offices. 13 14 CRESWELL: During the course of the contact conduct of your business as 15 Manager of Project Management do you normally interpret contracts? 16 17 DEDDENS: Could you clarify what you mean by that in terms of the meaning 18 of the contract language or 19 20 CRESWELL: By that I would mean that you would review the contract and make 21 decisions based on your review of the contract. 22 23 DEDDENS: Well, the Project Management function is a function which is 24 responsible for the execution of the contract which we have in our customers. 25 682 102

That naturally involves familiarity with the contract provision and decisions regarding administration of that contract. It also from time to time involves contract interpretation. We may make those interpretations ourselves within the Project Management Department or we may seek the advice of our legal staff to help us interpret the contract provision. So I think a general answer to your question is yes we would make contract interpretations.

<u>CRESWELL</u>: Were your decisions that were made on March 28th conducted under that type of situation?

<u>DEDDENS</u>: Our decisions on March 28th were I believe overridingly guided by past experience on plant operations. We have a reputation and kind of posture within 8&W that we are very responsive to the needs of our customers in a time of emergency. And this certainly was an emergency situation.

CRESWELL: This is Jim Creswell I'm going to turn the mike over to, oh I'm sorry. Well...,

DEDDENS: Our actions that day were guided by providing the customer with the assistance he needed to cope with this emergency.

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CRESWELL: There was no reluctance.

DEDDENS: I told you there was no reluctance and we did not make our decisions in an atmosphere of commercial consent. CRESWELL: Okay, thank you very much. I'll now turn it over to Owen to complete. SHACKLETON: Thank you very much Mr. Deddens and Mr. Nelson. This will conclude our interview. The time is now 11:29 a.m. Eastern Daylight Time, May 9, 1979.