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OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency:Nuclear Regulatory Commission
Incident Investigation TeamTitle:Nine Mile Point Nuclear Power Plant
Interview of: CHARLES GERBERICH

Docket No.

9305070 PDR AD

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LOCATION: Scriba, New York

DATE: Tuesday, August 20, 1991

PAGES: 1 - 21

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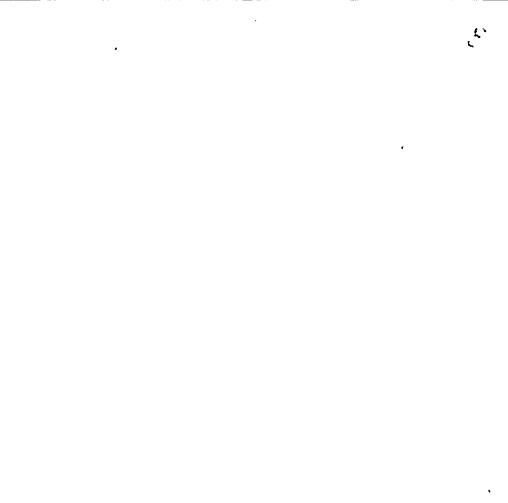


Exhibit 3-1 (continued)

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ADDENDUM TO INTERVIEW OF Charles W Gerbertch NAOE (Name/Position)

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1	UNITED STATES OF AMERICA			
2	NUCLEAR REGULATORY COMMISSION			
3	INCIDENT INVESTIGATION TEAM			
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5				
6	Interview of :			
7	CHARLES GERBERICH :			
8	(Closed) :			
9				
10				
11	Conference Room B			
12	Administration Building			
13	Nine Mile Point Nuclear			
14	Power Plant, Unit Two			
15	Lake Road			
16	Scriba, New York 13093			
17	Tuesday, August 20, 1991			
18				
19	The interview commenced, pursuant to notice,			
20	at 3:10 p.m.			
21				
22	PRESENT FOR THE IIT:			
23	Michael Jordan, NRC			
24	Rich Conte, INPO			
25				

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PROCEEDINGS

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[3:10 p.m.]

It's August 20, MR. JORDAN: Good afternoon. 3 It's 3:10 in the afternoon. We're at the Nine Mile 4 1991. Point Unit Two P building. We're here to cover events of a 5 transient that occurred on August 13, 1991. My name is 6 I'm with the U.S. NRC out of Region III. Michael Jordan. 7 I'm Rich Conte, NRC Region I. 8 MR. CONTE: 9 MR. GERBERICH: I'm Charles Gerberich, Unit Two 10 operator.

11 MR. JORDAN: Okay, Charlie. Why don't you start 12 off by just giving us the background experience that you 13 have.

MR. GERBERICH: I joined the company in 1981 as a security guard and joined the operations department in 1984 as a Unit Two auxiliary operator. Since then I've come up through the ranks of operations and acquired my license about two years ago, I think it was -- two years ago in June I acquired my license.

MR. CONTE: That would be June, 1989?
MR. GERBERICH: Yes, June, 1989.
MR. JORDAN: Do you have anything else?
MR. CONTE: That's it.
MR. JORDAN: Okay.
What position do you fill on the shift?

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MR. GERBERICH: I am a relief operator on the relief shift. I generally fill in for people on vacations or work daytime and fill in, help support the shift of record.

5 MR. JORDAN: Are you a COE or an ASSS? What's 6 your position?

7 MR. GERBERICH: An E operator, a relief E 8 operator.

9 MR. JORDAN: Why don't you just in your own words 10 give us the events as you saw the day of August 13.

All right. I arrived in the 11 MR. GERBERICH: 12 control room approximately 10, quarter after 6. It was very quite in there when I first arrived, and Mike Conway was at 13 the EOP boards. I asked him what I could assist him in. 14 Mike first directed me to see if I could help one of the 15 16 other E operators, Jim Emery, looking at steam loads and see if we could ascertain what steam loads were on or if any 17 18 were on.

Just about the time I went over to see Jim, we got the first annunciator panel back, so I really arrived there within a minute or two of having the annunciators returned. At that point, I was standing in front of the 852 panel, and the first annunciator that caught my eye was a process rad monitor, and I reported to Mike that I had a flash of the rad monitor alarm. He asked me if I would follow up on that

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1 and check it out and see if it was a valid alarm.

My first action was to go to the back panel, the 8080 circ panel, and I looked at all the chart recordings and each of the alarms, and none of the rad monitors for below refuel 4 or the drywell were in alarm. I came back out and verified that. By that time, the computer was back, and I looked on the computer, and none of the rad monitors were in alarm. I reported that to Mike.

9 At that point, I think I probably stood back for a 10 while, until Mike directed me to assist with the reactor 11 water level control. There was another operator in the 12 process of starting a condensate booster pump, and I went 13 through the procedure with that operator, with Jim Graff. 14 Jim and I looked through that procedure. We started a 15 booster pump and started to monitor the reactor water level.

MR. GERBERICH: This is probably, I'm going to say, towards 7:30-ish. It wasn't immediately; it wasn't right after 6. I'm thinking it was maybe a little after 7, maybe towards 7:30, by the time that happened.

About what time was that?

MR. CONTE:

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At that point, we were having difficulty with using the LV-55 valves, due to the fact that, in order to start a booster pump, you have to close the suction valves for the feed pumps, and they would not reopen, so we were really limited to using the low-pressure, low-flow level

control valve, which is the 137 valve. We used that and had
 that open to feed the vessel.

3 We did establish a slow upward trend, so we reported that to Mike, and level was restored above level 3. 4 At that point we also started another condensate pump at 5 that time. We had a high-temperature alarm in on the 6 existing pump -- I think it was on the motor windings -- so 7 we started a second pump, and the high-temperature alarm did 8 I think having one booster and one condensate 9 clear. pump -- I think it was really working, that condensate pump, 10 pretty hard. So we started the second. 11 .

12 After level was under control with the LV-137, I pretty much stepped back from that. I'm not exactly sure 13 14 about what time this is. This is probably getting on towards 8 o'clock. Pretty much then they asked anybody who 15 16 didn't have any immediate duties to step back away from the panels, and they'd cause us if they needed, and that was 17 18 pretty much my part in it right there. I stepped back away from the panels, and that was pretty much all I had to do 19 20 with it.

21 MR. JORDAN: For the rest of the day you --22 MR. GERBERICH: For the rest of the day I was on 23 call. I didn't really have any other panel assignments the 24 rest of the day.

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MR. JORDAN: Did you have any duties in the plant?

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1 MR. GERBERICH: None that I can remember. I was 2 in the control room, handling phone calls, a few things, but 3 I don't even remember anything significant after that 4 initial couple hours.

5 We were flushing for shutdown cooling and things 6 like that, but I really wasn't a part of those events.

7 MR. CONTE: On the way in, did you notice any 8 lighting out in any areas?

9 MR. GERBERICH: No. On the way in, they asked me 10 if I was an operator at security and let me through. I 11 didn't have any problem with lighting on the way in. I came 12 right in through the locker room, the normal access route, 13 and I didn't have any problem with lighting.

14

MR. CONTE: Okay.

You noticed first annunciator panels coming in.
Was there some sort of sequence of various panels coming in,
based on power supplies being re-energized? Could you
remember that sequence?

MR. GERBERICH: I couldn't. I think it struck me that I was in front of the 852 panel, and that was, I think, the first one that came back in.

22 MR. CONTE: What does the 852 panel generally tell 23 you?

24 MR. GERBERICH: That's your feedwater heating,
25 condensate, condensate booster pump feed system handle. It

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1 has --

MR. CONTE: How many sequence of panels do you 2 remember -- I mean, like 1, 2, 3, or 1, 2, or 1, 2, 3, 4 3 panels coming in? Do you remember that sequence? 4 MR. GERBERICH: No, I really don't, because I went 5 to the back panel as soon as I saw the rad monitor alarm 6 Let me think what other instrumentation there. When I 7 in. came and Mike asked me to look at the steam loads, we were 8 looking at the steam seals, the turbine seals, and that's 9 right about in line where the process rad monitor alarm 10 comes in, so that's about where I was standing, and that was 11 12 really what hit me first. MR. CONTE: You mentioned the process rad 13 Is that in distinction to general area rad 14 monitors. 15 monitors, and did you have general area rad monitors available to you in the control room? 16 17 [No response.] MR. CONTE: Do you know what I'm talking about 18 when I distinguish process rad monitors versus general area? 19 Your general area -- there 20 MR. GERBERICH: Yes. 21 are separate annunciators for those.

22 MR. CONTE: Did you check any of them to see if 23 there were any alarms?

24 MR. GERBERICH: When I got back to the computer, 25 yes. Those were all listed on the computer, and I asked

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for, if I recall, just a status grid indication, and they
 all came up not in alarm.

MR. JORDAN: That was for the area rad monitors? MR. GERBERICH: Yes. That was for the area rad monitors.

6 MR. JORDAN: What about the process rad monitors? 7 You didn't see any of those, either?

8 MR. GERBERICH: None of those, either.

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MR. JORDAN: All right.

10 MR. CONTE: There were some reports, in the turbine building for example, of radiation monitor alarms --11 12 some people thinking that there may have been a spike on the restoration of power that caused the alarm; but when 13 they looked at the meter, there was a normal reading. 14 Are those radiation monitors different from the general areas 15 16 that are repeated in the control room?

17MR. GERBERICH: I don't believe so.18MR. CONTE: They should be the same.

MR. GERBERICH: You're right. They would sendtheir signal back to the control room.

21 MR. CONTE: So locally there were some alarms for 22 whatever reason -- at least that's the reports we heard; I 23 don't know if you specifically heard that report -- but in 24 the control room there were no alarms on these general area 25 radiation monitors.

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1 MR. GERBERICH: Right, not when I looked at the 2 computer, no. MR. CONTE: And you were looking at this on a 3 4 process computer. 5 MR. GERBERICH: Yes. MR. CONTE: What do they call that system? 6 7 MR. GERBERICH: That's the DRMS computer, I believe. 8 Digital radiation monitoring system? 9 MR. CONTE: MR. GERBERICH: 10 Yes. 11 That just came to mind. MR. CONTE: 12 No alarms on that, no abnormal alarms on that? 13 MR. GERBERICH: No. MR. CONTE: 14 Okay. 15 MR. JORDAN: You mentioned that the 852 panel had some alarms that came up as far as alarming on the main 16 panel, I take it, that said there was a process rad monitor 17 18 problem. You notified the SSS; he said to check it out. 19 MR. GERBERICH: Yes. 20 MR. JORDAN: When you went back there, you found 21 no alarms in the alarm condition. MR. GERBERICH: That's correct. 22 MR. JORDAN: Did the 852 panel -- did you try to 23 acknowledge that? 24 25 MR. GERBERICH: It cleared it.

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10 It cleared it? 1 MR. JORDAN: MR. GERBERICH: Yes, it was. As a matter of fact, 2 it was cleared when I came back from the back panel. I'm 3 not exactly sure if, when the power was restored, everything 4 5 flashed or not, but when I did see that light up, that was my first thought: look at the rad monitors. 6 7 MR. JORDAN: Okay. MR. GERBERICH: Then, when I saw that there was 8 nothing in alarm and I saw that that was cleared, that 9 again --10 MR. JORDAN: -- made you feel better. 11 MR. GERBERICH: Yes. It was kind of a secondary 12 verification there. 13 14 MR. JORDAN: Okay. 15 MR. CONTE: Do you suspect a delay in starting up the condensate system, or could you explain -- were you 16

17 aware of what was discussed in the control room of why 18 condensate booster pumps were not started until about 7:30, 19 when the power was restored, at 6:22?

20 [Pause.]

21 MR. CONTE: Just shift management didn't give you 22 any direction to do that?

23 MR. GERBERICH: I don't believe that there was a 24 water -- Well, they did have a high-water problem at one 25 time, and they weren't worried, necessarily, about -- I

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just don't think they were worried about a water problem. If anything, we've had an experience here before where we've overfilled the vessel -- or filled the vessel up to the steam lines; it happened a few years back. I think they were probably aware -- let's get a-hold of our water; we don't want to overfill again, and we certainly don't want to flood the steam lines, if possible.

8 I don't think there was any hesitancy to get the 9 feed system back on. That's pretty much my opinion, though. 10 MR. CONTE: Let's go on to the procedure that you 11 were using to get the booster pump'started.' You said part 12 of the procedure was to shut the suction valve of the feed 13 pump.

MR. GERBERICH: Yes.

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15 MR. CONTE: Is there a stated purpose as to why 16 you do that, or is it just directed by the procedures? 17 MR. GERBERICH: It is directed by the procedure. 18 MR. CONTE: To shut the valve. Okay. MR. JORDAN: Which valve was that? LV-10? 19 20 That is MOV-84s, I believe. MR. GERBERICH: 21 That's the suction for the feedwater. MR. JORDAN: 22 Suction to the feed pond. MR. GERBERICH: 23 MR. CONTE: A, B, and C for respective pumps. 24 MR. GERBERICH: A, B, and C, right. Then, when you shut that and you've 25 MR. CONTE:

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got the booster pumps running, you've got this high 1 differential pressure. Is that expected? Have you seen 2 that before? I guess the condensate pumps are against the 3 stops there, the suction valves. Maybe there are discharge 4 valves also. I don't know. Could you explain what's 5 happening when the suction valves are shut? The booster 6 pumps are basically recirculating; is that correct? 7 That's correct, yes. There's a 8 MR. GERBERICH: high delta on that valve. Now, in normal startup you 9 relieve that pressure to allow you to open the 84s. 10 How do you do that? 11 MR. CONTE: 12 MR. GERBERICH: You can do that through your long -- I believe it's a flush cycle that you can use. 13 So there are bypass valves to equalize 14 MR. CONTE: 15 it. 16 MR. GERBERICH: To equalize, yes. 17 MR. CONTE: Why didn't you use them? Could you use them when you were starting this up to get the 84 valves 18 19 open? 20 MR. GERBERICH: I don't know. I'd have to look at 21 a print on that, to be honest with you. Procedure doesn't direct you, though? 22 MR. CONTE: MR. GERBERICH: The procedure didn't direct us to 23 24 open a bypass, though. 25 MR. CONTE: Okay.

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Now, the procedure you're using is basically
 what?

MR. GERBERICH: It's a normal startup procedure. I'm not sure -- that may be addressed when the augmented inspection team was here, that they would look into that. MR. CONTE: What OP is that for starting up the

7 condensate system?

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MR. GERBERICH: OP-3.

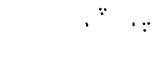
MR. CONTE: Let me ask the need to get water 9 injecting into the reactor vessel. Is there kind of a 10 short-form procedure, if you will, rather than going 11 12 through an extensive check of the pump status? Normally, when you're starting up a system, there's a lot of 13 precautions about starting pumps, checking their conditions 14 15 before you actually start the pump; but sometimes, in an 16 emergency, there's a need to quickly get valves open and 17 start pumps.

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MR. GERBERICH: Yes.

MR. CONTE: Are there procedures for kind of quick starts for systems, to get water into the reactor vessel? Basically, if a system trips in an emergency, you've got to go back to the startup procedure, which may or may not have applicable stuff.

24 MR. GERBERICH: Yes. I understand what you're 25 saying. Are there some short, quick-type method, emergency



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14 1 startup procedures? MR. CONTE: Are there any at this facility? 2 MR. GERBERICH: No, there are none. 3 MR. CONTE: So you've basically got to go to the 4 startup procedure and use the applicable portion. 5 MR. GERBERICH: Try to use the applicable portion. 6 That's right. 7 MR. CONTE: Jump in, Mike, if you've got any 8 9 questions. 10 MR. JORDAN: Mine was even more basic than that. When you started you had, what, a condensate pump on, and 11 12 then no booster pumps? MR. GERBERICH: There was one condensate pump 13 running. 14 MR. JORDAN: There was one condensate pump 15 running. 16 17 MR. GERBERICH: Yes. MR. JORDAN: And the other ones were off because 18 19 they were tripped off, or were they off because they were turned off, on the condensate pumps? 20 The way I understand it is that 21 MR. GERBERICH: 22 they were turned off. 23 MR. JORDAN: The other two -- were there three condensate pumps, four? 24 25 MR. GERBERICH: There were probably three running,

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1 and two were shut off, on the condensate pumps. Probably two condensate boosters, and then two were shut off. 2 MR. JORDAN: Let's just go to the condensate 3 4 pumps. 5 MR. GERBERICH: Okay. The condensate pumps, you think how 6 MR. JORDAN: 7 many were running? 8 MR. GERBERICH: Probably three. 9 MR. JORDAN: Three running. 10 MR. GERBERICH: I mean, that's our normal 11 configuration for 100 percent power. MR. JORDAN: Three running, and how many were off? 12 Two were off. 13 MR. GERBERICH: 14 MR. JORDAN: So there are five. 15 MR. GERBERICH: No. I'm sorry. We have three pumps. 16 MR. JORDAN: You have three condensate pumps. 17 18 MR. GERBERICH: Yes. We usually run all three. 19 MR. JORDAN: So you normally run all three. 20 MR. GERBERICH: Yes. 21 MR. JORDAN: Okay. I quess I'm a little confused, because then you 22 23 said that later on you had to start another one to support the booster pumps. When you started out, can you tell me 24 25 how many pumps when you started out?

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MR. GERBERICH: We had one single condensate pump
 running out of three.

MR. JORDAN: Okay. One out of three was running. Two were not running. Do you know, were they tripped, or were they just turned off?

6 MR. GERBERICH: I believe they were turned off. 7 That was my understanding.

8 MR. JORDAN: Okay. The condensate booster pumps. 9 MR. GERBERICH: We have three condensate booster 10 pumps.

11 MR. JORDAN: Okay.

12 MR. GERBERICH: None were running.

13 MR. JORDAN: None were running.

14 MR. GERBERICH: I believe they were also turned 15 off.

16 MR. JORDAN: They were turned off, not tripped.
17 They were turned off, and you started one.

18 MR. GERBERICH: One.

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Actually, I helped in this procedure. There was another operator with me, and I imagine you'll talk to Jim, if you haven't already.

MR. CONTE: Jim -- what's his name?
MR. GERBERICH: Graff, G-r-a-f-f.
MR. CONTE: Okay.

MR. JORDAN: Then at some time later, you got an

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1 alarm?

2 MR. GERBERICH: Yes. We had a high-temperature 3 alarm on the running condensate pump.

4 MR. JORDAN: So you started a second condensate 5 pump.

6 MR. GERBERICH: Yes. I monitored the temperature 7 of the running pump, and the temperature did decrease, and 8 the alarm cleared.

9 MR. JORDAN: So at that time you had, then, two 10 condensate, one booster --

11 MR. GERBERICH: That's correct.

12 MR. JORDAN: -- injecting through --

13 MR. GERBERICH: -- the LV-137.

MR. JORDAN: Your startup? Is that what that is?
MR. GERBERICH: Your startup, low flow, low
pressure.

17 MR. JORDAN: Do you know what the discharge head 18 of the booster pumps -- what pressure can you inject water 19 into the vessel?

20 MR. GERBERICH: Well, yes. We were about 700. 21 With two condensate pumps and the one booster, we were about 22 700, 720, somewhere in that vicinity -- pounds discharge 23 pressure off the booster. It was a little bit lower when we 24 had the single condensate pump running, about 680.

MR. JORDAN: Okay.

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1 MR. CONTE: That was above reactor pressure, so 2 you were injecting water.

MR. GERBERICH: Yes. Reactor pressure at this time, I'm pretty sure -- Well, we were communicating with the operator that was lowering reactor pressure using the bypass valve, and I believe his band was 500 to 600 at the time, so we were right in that area, so we were injecting water, yes.

9 MR. JORDAN: In the time that you were in the 10 control room, did you ever hear of either the condensate 11 pump, condensate boosters, or any of those, tripping off? 12 MR. GERBERICH: No.

MR. JORDAN: Not after you got flowing; prior to that and during the event, had you heard of any condensate or condensate booster pumps tripping off?

16 MR. GERBERICH: No, I hadn't.

17 MR. JORDAN: Okay.

MR. GERBERICH: And there were no motor electrical faults or anything like that would have prevented -- well, they didn't, because that would have prevented a start.

21 MR. CONTE: You mentioned difficulties with LV-55. 22 What was the problem? LV-55 are the feed-regulating; is 23 that correct?

24 MR. GERBERICH: They're the high-pressure, low-25 flow feed valves, also used in startup, but in order to get

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a flow path through them, you have to go through the suction 1 valve of the feed pump, so without the MOV-84s available we 2 3 had to use the bypass line, which was the 137 line. MR. CONTE: That was the nature of the difficulty. 4 The 84s were shut; you couldn't get them open; so that's why 5 the 55s were not --6 7 MR. GERBERICH: -- available. 8 MR. CONTE: --effective. 9 MR. GERBERICH: Yes. 10 MR. CONTE: And the alternate path was the V-37. 11 MR. GERBERICH: Well, 137. 12 MR. CONTE: MOV? 13 MR. GERBERICH: LV. 14 MR. CONTE: LV-137. And that basically bypasses the feed pumps? 15 16 MR. GERBERICH: Yes, it does. 17 MR. CONTE: Let me just reiterate, because we need to make sure we have this straight: You don't understand 18 19 why the procedure tells you to shut the 84 valve. It just 20 says to shut it. 21 Well, I have to look back and read MR. GERBERICH: 22 the whole thing again. I think my understanding of that procedure is that it is a startup -- you don't have a 23 thousand pounds reactor pressure against it. This is prior 24

to a critical reactor, so that you don't have any high DP to

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worry about. This is conjecture, but I would think that's
 really the nature of the problem, that that particular
 procedure is certainly not written for a critical reactor.
 MR. CONTE: Okay.

5 MR. JORDAN: You say the 84s were closed and you 6 could not get them open because of the differential 7 pressure, high DP. Let me make sure in my own mind how that 8 works. On one side you've got the condensate booster pump 9 discharge pressure, and on the other side what does it see? 10 MR. GERBERICH: It will see reactor pressure, I 11 believe.

MR. JORDAN: Reactor pressure at this point?
MR. GERBERICH: Well, let's see. That point -MR. JORDAN: Is there a valve upstream that would
be closed or open or what?

MR. GERBERICH: You know, I'm not sure what the
valve configuration was at this point. I don't know.

18 MR. JORDAN: Okay.

MR. CONTE: I don't have anything else, Mike.
MR. JORDAN: I don't either. I got what I need.
MR. GERBERICH: I hope I was helpful. I was
really pretty much a team player in this after -- I didn't
have a huge part.

24 MR. CONTE: Well, whatever you can contribute, 25 because we are trying to understand what happened to the

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feed and condensate system. It's part of our task to find
 out what happens, so we're piecing the puzzles together,
 what you say, what other people say, and they all come
 together.

5 MR. JORDAN: Was there anything that we didn't 6 cover that you felt was knowledge or information that would 7 benefit us?

8 MR. GERBERICH: No. Outside of the MOV-84 issue, 9 as far as why they went closed, we closed them to start the 10 booster pump, and why they wouldn't reopen at that point.

MR. CONTE: In your training program, did you ever see this before, where you lost annunciators and the fullcore display?

MR. GERBERICH: No, not to my recollection, not
all of the annunciators, certainly.

16 MR. CONTE: Were you exposed to some annunciator 17 losses?

18 MR. GERBERICH: Yes. We've had some, a partial 19 loss of a board here and there, but nothing to this extent. 20 MR. CONTE: Okay. That's it. 21 MR. JORDAN: Thank you. 22 MR. CONTE: We're off the record. 23 MR. GERBERICH: Thank you. 24 [Whereupon, at 3:40 p.m., the taking of the investigative interview was concluded.] 25

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REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

in the matter of:

NAME OF PROCEEDING: Int. of CHARLES GERBERICH

DOCKET NUMBER:

PLACE OF PROCEEDING: Scriba, N.Y.

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

JON HUNDLEY Official Reporter Ann Riley & Associates, Ltd.

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07-973-91

OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission Incident Investigation Team Nine Mile Point Nuclear Power Plant

Title: Nine Mile Point Nuclear Power Plant Interview of: CHARLES GERBERICH

Docket No.

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LOCATION: Scriba, New York

DATE: Tuesday, August 20, 1991

PAGES: 1 - 21

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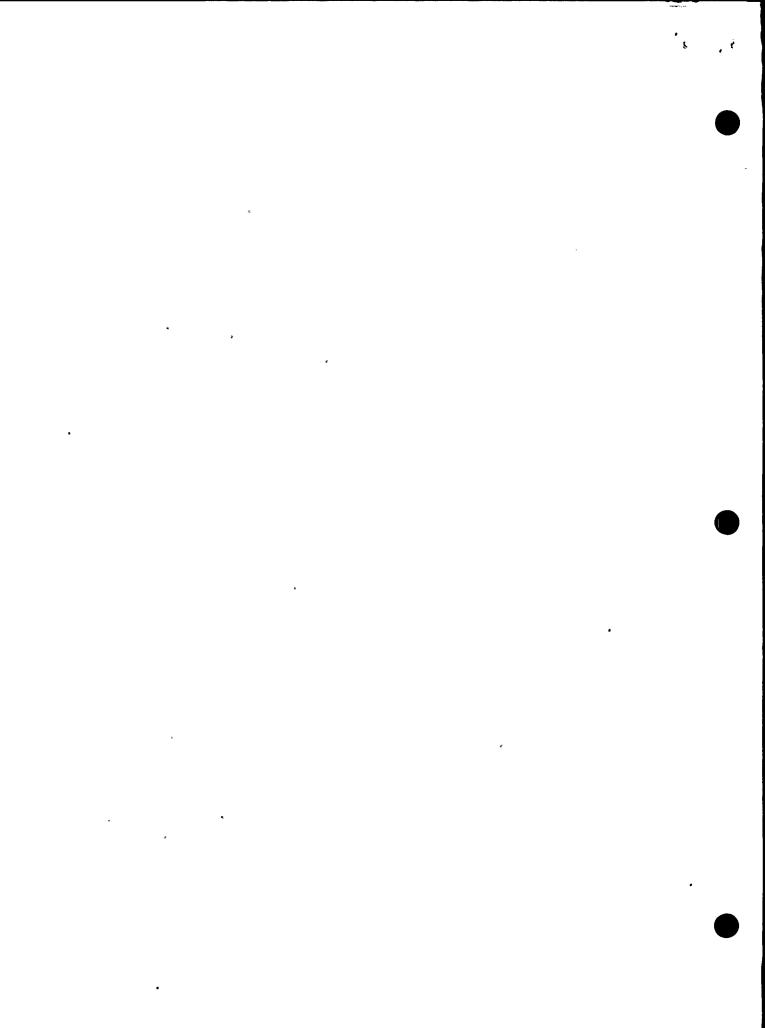


Exhibit 3-1 (continued)

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ADDENDUM TO INTERVIEW OF Charles W Gerberich NAOE (Name/Position)

Page	Line	Correction and Reason for Correction
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Page 1 of 1 Signature Charles w - Date 8/3/91 Send



1	UNITED STATES OF AMERICA
2	NUCLEAR REGULATORY COMMISSION
3	INCIDENT INVESTIGATION TEAM
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6	Interview of :
7	CHARLES GERBERICH :
8	(Closed) :
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10	
11	Conference Room B
12	Administration Building
13	Nine Mile Point Nuclear
14	Power Plant, Unit Two
15	Lake Road
16	Scriba, New York 13093
17	Tuesday, August 20, 1991
18 [′]	
19	The interview commenced, pursuant to notice,
20	at 3:10 p.m.
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22	PRESENT FOR THE IIT:
23	Michael Jordan, NRC
24	Rich Conte, INPO
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PROCEEDINGS

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[3:10 p.m.]

MR. JORDAN: Good afternoon. It's August 20, 3 It's 3:10 in the afternoon. We're at the Nine Mile 4 1991. Point Unit Two P building. We're here to cover events of a 5 transient that occurred on August 13, 1991. My name is 6 I'm with the U.S. NRC out of Region III. 7 Michael Jordan. I'm Rich Conte, NRC Region I. 8 MR. CONTE: MR. GERBERICH: I'm Charles Gerberich, Unit Two 9 10 operator. MR. JORDAN: Okay, Charlie. Why don't you start 11 12 off by just giving us the background experience that you 13 have. 14 I joined the company in 1981 as a MR. GERBERICH: 15 security guard and joined the operations department in 1984 16 as a Unit Two auxiliary operator. Since then I've come up 17 through the ranks of operations and acquired my license 18 about two years ago, I think it was -- two years ago in June 19 I acquired my license. 20 That would be June, 1989? MR. CONTE: MR. GERBERICH: Yes, June, 1989. 21 22 MR. JORDAN: Do you have anything else? 23 That's it. MR. CONTE: 24 MR. JORDAN: Okay. 25 What position do you fill on the shift?

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MR. GERBERICH: I am a relief operator on the relief shift. I generally fill in for people on vacations or work daytime and fill in, help support the shift of record.

5 MR. JORDAN: Are you a COE or an ASSS? What's 6 your position?

7 MR. GERBERICH: An E operator, a relief E8 operator.

9 MR. JORDAN: Why don't you just in your own words 10 give us the events as you saw the day of August 13.

All right. I arrived in the 11 MR. GERBERICH: control room approximately 10, quarter after 6. It was very 12 quite in there when I first arrived, and Mike Conway was at 13 the EOP boards. I asked him what I could assist him in. 14 Mike first directed me to see if I could help one of the 15 16 other E operators, Jim Emery, looking at steam loads and 17 see if we could ascertain what steam loads were on or if any 18 were on.

Just about the time I went over to see Jim, we got the first annunciator panel back, so I really arrived there within a minute or two of having the annunciators returned. At that point, I was standing in front of the 852 panel, and the first annunciator that caught my eye was a process rad monitor, and I reported to Mike that I had a flash of the rad monitor alarm. He asked me if I would follow up on that

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1 and check it out and see if it was a valid alarm.

My first action was to go to the back panel, the 8080 circ panel, and I looked at all the chart recordings and each of the alarms, and none of the rad monitors for below refuel 4 or the drywell were in alarm. I came back out and verified that. By that time, the computer was back, and I looked on the computer, and none of the rad monitors were in alarm. I reported that to Mike.

9 At that point, I think I probably stood back for a 10 while, until Mike directed me to assist with the reactor 11 water level control. There was another operator in the 12 process of starting a condensate booster pump, and I went 13 through the procedure with that operator, with Jim Graff. 14 Jim and I looked through that procedure. We started a 15 booster pump and started to monitor the reactor water level.

MR. GERBERICH: This is probably, I'm going to say, towards 7:30-ish. It wasn't immediately; it wasn't right after 6. I'm thinking it was maybe a little after 7, maybe towards 7:30, by the time that happened.

MR. CONTE:

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About what time was that?

At that point, we were having difficulty with using the LV-55 valves, due to the fact that, in order to start a booster pump, you have to close the suction valves for the feed pumps, and they would not reopen, so we were really limited to using the low-pressure, low-flow level

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control valve, which is the 137 valve. We used that and had
 that open to feed the vessel.

3 We did establish a slow upward trend, so we reported that to Mike, and level was restored above level 3. 4 At that point we also started another condensate pump at 5 that time. We had a high-temperature alarm in on the 6 7 existing pump -- I think it was on the motor windings -- so we started a second pump, and the high-temperature alarm did 8 I think having one booster and one condensate 9 clear. pump -- I think it was really working, that condensate pump, 10 pretty hard. So we started the second. 11

After level was under control with the LV-137, I 12 pretty much stepped back from that. I'm not exactly sure 13 14 about what time this is. This is probably getting on 15 towards 8 o'clock. Pretty much then they asked anybody who 16 didn't have any immediate duties to step back away from the panels, and they'd cause us if they needed, and that was 17 18 pretty much my part in it right there. I stepped back away 19 from the panels, and that was pretty much all I had to do 20 with it.

21 MR. JORDAN: For the rest of the day you --22 MR. GERBERICH: For the rest of the day I was on 23 call. I didn't really have any other panel assignments the 24 rest of the day.

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MR. JORDAN: Did you have any duties in the plant?

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MR. GERBERICH: None that I can remember. I was in the control room, handling phone calls, a few things, but I don't even remember anything significant after that initial couple hours.

5 We were flushing for shutdown cooling and things 6 like that, but I really wasn't a part of those events.

7 MR. CONTE: On the way in, did you notice any 8 lighting out in any areas?

9 MR. GERBERICH: No. On the way in, they asked me 10 if I was an operator at security and let me through. I 11 didn't have any problem with lighting on the way in. I came 12 right in through the locker room, the normal access route, 13 and I didn't have any problem with lighting.

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MR. CONTE: Okay.

You noticed first annunciator panels coming in.
Was there some sort of sequence of various panels coming in,
based on power supplies being re-energized? Could you
remember that sequence?

MR. GERBERICH: I couldn't. I think it struck me that I was in front of the 852 panel, and that was, I think, the first one that came back in.

22 MR. CONTE: What does the 852 panel generally tell 23 you?

24 MR. GERBERICH: That's your feedwater heating, 25 condensate, condensate booster pump feed system handle. It

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1 has --

2 MR. CONTE: How many sequence of panels do you 3 remember -- I mean, like 1, 2, 3, or 1, 2, or 1, 2, 3, 4 4 panels coming in? Do you remember that sequence?

5 MR. GERBERICH: No, I really don't, because I went 6 to the back panel as soon as I saw the rad monitor alarm Let me think what other instrumentation there. When I 7 in. came and Mike asked me to look at the steam loads, we were 8 9 looking at the steam seals, the turbine seals, and that's 10 right about in line where the process rad monitor alarm comes in, so that's about where I was standing, and that was 11 12 really what hit me first.

MR. CONTE: You mentioned the process rad monitors. Is that in distinction to general area rad monitors, and did you have general area rad monitors available to you in the control room?

[No response.]

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MR. CONTE: Do you know what I'm talking about
 when I distinguish process rad monitors versus general area?
 MR. GERBERICH: Yes. Your general area -- there

21 are separate annunciators for those.

22 MR. CONTE: Did you check any of them to see if 23 there were any alarms?

24 MR. GERBERICH: When I got back to the computer, 25 yes. Those were all listed on the computer, and I asked

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for, if I recall, just a status grid indication, and they
 all came up not in alarm.

MR. JORDAN: That was for the area rad monitors? MR. GERBERICH: Yes. That was for the area rad monitors.

6 MR. JORDAN: What about the process rad monitors? 7 You didn't see any of those, either?

8 MR. GERBERICH: None of those, either.

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MR. JORDAN: All right.

10 MR. CONTE: There were some reports, in the turbine building for example, of radiation monitor alarms --11 12 some people thinking that there may have been a spike on the restoration of power that caused the alarm; but when 13 14 they looked at the meter, there was a normal reading. Are 15 those radiation monitors different from the general areas 16 that are repeated in the control room?

17MR. GERBERICH: I don't believe so.18MR. CONTE: They should be the same.

MR. GERBERICH: You're right. They would send
their signal back to the control room.

21 MR. CONTE: So locally there were some alarms for 22 whatever reason -- at least that's the reports we heard; I 23 don't know if you specifically heard that report -- but in 24 the control room there were no alarms on these general area 25 radiation monitors.

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MR. GERBERICH: Right, not when I looked at the 1 2 computer, no. 3 MR. CONTE: And you were looking at this on a 4 process computer. 5 MR. GERBERICH: Yes. MR. CONTE: What do they call that system? 6 7 MR. GERBERICH: That's the DRMS computer, I believe. 8 9. Digital radiation monitoring system? MR. CONTE: Yes. 10 MR. GERBERICH: MR. CONTE: That just came to mind. 11 12 No alarms on that, no abnormal alarms on that? 13 MR. GERBERICH: No. 14 MR. CONTE: Okay. MR. JORDAN: You mentioned that the 852 panel had 15 16 some alarms that came up as far as alarming on the main panel, I take it, that said there was a process rad monitor 17 18 problem. You notified the SSS; he said to check it out. 19 MR. GERBERICH: Yes. 20 MR. JORDAN: When you went back there, you found 21 no alarms in the alarm condition. 22 That's correct. MR. GERBERICH: MR. JORDAN: Did the 852 panel -- did you try to 23 acknowledge that? 24 25 ' MR. GERBERICH: It cleared it.

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1 MR. JORDAN: It cleared it? 2 MR. GERBERICH: Yes, it was. As a matter of fact, 3 it was cleared when I came back from the back panel. I'm not exactly sure if, when the power was restored, everything 4 5 flashed or not, but when I did see that light up, that was my first thought: look at the rad monitors. 6 ·7 MR. JORDAN: Okay. 8 MR. GERBERICH: Then, when I saw that there was 9 nothing in alarm and I saw that that was cleared, that again --10 11 MR. JORDAN: -- made you feel better. 12 MR. GERBERICH: Yes. It was kind of a secondary 13 verification there. 14 MR. JORDAN: Okav. 15 Do you suspect a delay in starting up MR. CONTE: 16 the condensate system, or could you explain -- were you 17 aware of what was discussed in the control room of why 18 condensate booster pumps were not started until about 7:30, 19 when the power was restored, at 6:22? 20 [Pause.] 21 Just shift management didn't give you MR. CONTE: 22 any direction to do that? 23 MR. GERBERICH: I don't believe that there was a 24 water -- Well, they did have a high-water problem at one 25 time, and they weren't worried, necessarily, about -- I 1

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just don't think they were worried about a water problem. If anything, we've had an experience here before where we've overfilled the vessel -- or filled the vessel up to the steam lines; it happened a few years back. I think they were probably aware -- let's get a-hold of our water; we don't want to overfill again, and we certainly don't want to flood the steam lines; if possible.

8 I don't think there was any hesitancy to get the 9 feed system back on. That's pretty much my opinion, though. 10 MR. CONTE: Let's go on to the procedure that you 11 were using to get the booster pump started. You said part 12 of the procedure was to shut the suction valve of the feed 13 pump.

MR. GERBERICH: Yes.

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15 Is there a stated purpose as to why MR. CONTE: 16 you do that, or is it just directed by the procedures? 17 MR. GERBERICH: It is directed by the procedure. 18 MR. CONTE: To shut the valve. Okay. 19 MR. JORDAN: Which valve was that? LV-10? That is MOV-84s, I believe. 20 MR. GERBERICH: That's the suction for the feedwater. 21 MR. JORDAN: 22 MR. GERBERICH: Suction to the feed pond. 23 A, B, and C for respective pumps. MR. CONTE: 24 MR. GERBERICH: A, B, and C, right. 25 MR. CONTE: Then, when you shut that and you've

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got the booster pumps running, you've got this high 1 2 differential pressure. Is that expected? Have you seen 3 that before? I guess the condensate pumps are against the stops there, the suction valves. Maybe there are discharge 4 I don't know. Could you explain what's 5 valves also. happening when the suction valves are shut? The booster 6 7 pumps are basically recirculating; is that correct?

8 MR. GERBERICH: That's correct, yes. There's a 9 high delta on that valve. Now, in normal startup you 10 relieve that pressure to allow you to open the 84s.

11 MR. CONTE: How do you do that?

MR. GERBERICH: You can do that through your long
13 -- I believe it's a flush cycle that you can use.

14MR. CONTE: So there are bypass valves to equalize15it.

16 MR. GERBERICH: To equalize, yes.

MR. CONTE: Why didn't you use them? Could you use them when you were starting this up to get the 84 valves open?

20 MR. GERBERICH: I don't know. I'd have to look at 21 a print on that, to be honest with you.

22 MR. CONTE: Procedure doesn't direct you, though? 23 MR. GERBERICH: The procedure didn't direct us to 24 open a bypass, though.

25 MR. CONTE: Okay.

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Now, the procedure you're using is basically
 what?

MR. GERBERICH: It's a normal startup procedure. I'm not sure -- that may be addressed when the augmented inspection team was here, that they would look into that.

6 MR. CONTE: What OP is that for starting up the 7 condensate system?

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MR. GERBERICH: OP-3.

Let me ask the need to get water 9 MR. CONTE: 10 injecting into the reactor vessel. Is there kind of a short-form procedure, if you will, rather than going 11 12 through an extensive check of the pump status? Normally, when you're starting up a system, there's a lot of 13 14 precautions about starting pumps, checking their conditions 15 before you actually start the pump; but sometimes, in an 16 emergency, there's a need to quickly get valves open and 17 start pumps.

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MR. GERBERICH: Yes.

MR. CONTE: Are there procedures for kind of quick starts for systems, to get water into the reactor vessel? Basically, if a system trips in an emergency, you've got to go back to the startup procedure, which may or may not have applicable stuff.

24 MR. GERBERICH: Yes. I understand what you're 25 saying. Are there some short, quick-type method, emergency

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14 1 startup procedures? MR. CONTE: Are there any at this facility? 2 3 MR. GERBERICH: No, there are none. MR. CONTE: So you've basically got to go to the 4 startup procedure and use the applicable portion. 5 6 MR. GERBERICH: Try to use the applicable portion. 7 That's right. Jump in, Mike, if you've got any 8 MR. CONTE: 9 questions. 10 MR. JORDAN: Mine was even more basic than that. When you started you had, what, a condensate pump on, and 11 12 then no booster pumps? MR. GERBERICH: There was one condensate pump 13 running. 14 15 MR. JORDAN: There was one condensate pump running. 16 17 MR. GERBERICH: Yes. MR. JORDAN: And the other ones were off because 18 19 they were tripped off, or were they off because they were 20 turned off, on the condensate pumps? 21 MR. GERBERICH: The way I understand it is that 22 they were turned off. 23 MR. JORDAN: The other two -- were there three 24 condensate pumps, four? 25 There were probably three running, MR. GERBERICH:

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and two were shut off, on the condensate pumps. Probably 1 2 two condensate boosters, and then two were shut off. 3 MR. JORDAN: Let's just go to the condensate 4 pumps. 5 MR. GERBERICH: Okay. MR. JORDAN: The condensate pumps, you think how 6 7 many were running? 8 MR. GERBERICH: Probably three. 9 MR. JORDAN: Three running. 10 I mean, that's our normal MR. GERBERICH: 11 configuration for 100 percent power. MR. JORDAN: Three running, and how many were off? 12 13 MR. GERBERICH: Two were off. 14 MR. JORDAN: So there are five. 15 I'm sorry. We have three MR. GERBERICH: No. 16 pumps. MR. JORDAN: You have three condensate pumps. 17 MR. GERBERICH: 18 Yes. We usually run all three. 19 MR. JORDAN: So you normally run all three. 20 MR. GERBERICH: Yes. 21 MR. JORDAN: Okay. 22 I guess I'm a little confused, because then you 23 said that later on you had to start another one to support 24 the booster pumps. When you started out, can you tell me 25 how many pumps when you started out?

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1MR. GERBERICH: We had one single condensate pump2running out of three.3MR. JORDAN: Okay. One out of three was running.

4 Two were not running. Do you know, were they tripped, or 5 were they just turned off?

MR. GERBERICH: I believe they were turned off.
7 That was my understanding.

8 MR. JORDAN: Okay. The condensate booster pumps. 9 MR. GERBERICH: We have three condensate booster 10 pumps.

11 MR. JORDAN: Okay.

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12 MR. GERBERICH: None were running.

13 MR. JORDAN: None were running.

14 MR. GERBERICH: I believe they were also turned15 off.

MR. JORDAN: They were turned off, not tripped.
They were turned off, and you started one.

18 MR. GERBERICH: One.

Actually, I helped in this procedure. There was another operator with me, and I imagine you'll talk to Jim, if you haven't already.

MR. CONTE: Jim -- what's his name?
MR. GERBERICH: Graff, G-r-a-f-f.
MR. CONTE: Okay.

25 MR. JORDAN: Then at some time later, you got an

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1 alarm?

2 MR. GERBERICH: Yes. We had a high-temperature 3 alarm on the running condensate pump. MR. JORDAN: So you started a second condensate 4 5 pump. 6 MR. GERBERICH: Yes. I monitored the temperature 7 of the running pump, and the temperature did decrease, and 8 the alarm cleared. 9 MR. JORDAN: So at that time you had, then, two 10 condensate, one booster --11 MR. GERBERICH: That's correct. 12 MR. JORDAN: -- injecting through --13 MR. GERBERICH: -- the LV-137. MR. JORDAN: Your startup? Is that what that is? 14 15 Your startup, low flow, low MR. GERBERICH: 16 pressure. 17 MR. JORDAN: Do you know what the discharge head 18 of the booster pumps -- what pressure can you inject water 19 into the vessel? 20 MR. GERBERICH: Well, yes. We were about 700. 21 With two condensate pumps and the one booster, we were about 22 700, 720, somewhere in that vicinity -- pounds discharge 23 pressure off the booster. It was a little bit lower when we 24 had the single condensate pump running, about 680. 25 MR. JORDAN: Okay.

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1 MR. CONTE: That was above reactor pressure, so 2 you were injecting water.

MR. GERBERICH: Yes. Reactor pressure at this 3 time, I'm pretty sure -- Well, we were communicating with 4 5 the operator that was lowering reactor pressure using the bypass valve, and I believe his band was 500 to 600 at the 6 time, so we were right in that area, so we were injecting 7 water, yes. 8

MR. JORDAN: In the time that you were in the 9 control room, did you ever hear of either the condensate 10 pump, condensate boosters, or any of those, tripping off? 11 12

MR. GERBERICH: No.

13 MR. JORDAN: Not after you got flowing; prior to 14 that and during the event, had you heard of any condensate or condensate booster pumps tripping off? 15

MR. GERBERICH: No, I hadn't.

17 MR. JORDAN: Okay.

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18 MR. GERBERICH: And there were no motor electrical faults or anything like that would have prevented -- well, 19 20 they didn't, because that would have prevented a start.

You mentioned difficulties with LV-55. 21 MR. CONTE: 22 What was the problem? LV-55 are the feed-regulating; is 23 that correct?

They're the high-pressure, low-24 MR. GERBERICH: flow feed valves, also used in startup, but in order to get 25

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a flow path through them, you have to go through the suction 1 valve of the feed pump, so without the MOV-84s available we 2 had to use the bypass line, which was the 137 line. 3 1 That was the nature of the difficulty. 4 MR. CONTE: 5 The 84s were shut; you couldn't get them open; so that's why 6 the 55s were not --7 MR. GERBERICH: -- available. MR. CONTE: --effective. 8 9 MR. GERBERICH: Yes. And the alternate path was the V-37. 10 MR. CONTE: MR. GERBERICH: Well, 137. 11 12 MR. CONTE: MOV? 13 MR. GERBERICH: LV. 14 MR. CONTE: LV-137. 15 And that basically bypasses the feed pumps? MR. GERBERICH: Yes, it does. 16 Let me just reiterate, because we need 17 MR. CONTE: 18 to make sure we have this straight: You don't understand 19 why the procedure tells you to shut the 84 valve. It just 20 says to shut it. 21 MR. GERBERICH: Well, I have to look back and read 22 the whole thing again. I think my understanding of that procedure is that it is a startup -- you don't have a 23 thousand pounds reactor pressure against it. This is prior 24

25 to a critical reactor, so that you don't have any high DP to

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worry about. This is conjecture, but I would think that's 1 2 really the nature of the problem, that that particular procedure is certainly not written for a critical reactor. 3 4 MR. CONTE: Okay. 5 MR. JORDAN: You say the 84s were closed and you could not get them open because of the differential 6 7 pressure, high DP. Let me make sure in my own mind how that 8 On one side you've got the condensate booster pump works. discharge pressure, and on the other side what does it see? 9

10MR. GERBERICH: It will see reactor pressure, I11believe.

MR. JORDAN: Reactor pressure at this point?
MR. GERBERICH: Well, let's see. That point -MR. JORDAN: Is there a valve upstream that would
be closed or open or what?

MR. GERBERICH: You know, I'm not sure what the
valve configuration was at this point. I don't know.

18 MR. JORDAN: Okay.

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MR. CONTE: I don't have anything else, Mike.
MR. JORDAN: I don't either. I got what I need.
MR. GERBERICH: I hope I was helpful. I was
really pretty much a team player in this after -- I didn't
have a huge part.

24 MR. CONTE: Well, whatever you can contribute, 25 because we are trying to understand what happened to the

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feed and condensate system. It's part of our task to find
 out what happens, so we're piecing the puzzles together,
 what you say, what other people say, and they all come
 together.

5 MR. JORDAN: Was there anything that we didn't 6 cover that you felt was knowledge or information that would 7 benefit us?

8 MR. GERBERICH: No. Outside of the MOV-84 issue, 9 as far as why they went closed, we closed them to start the 10 booster pump, and why they wouldn't reopen at that point. 11 MR. CONTE: In your training program, did you ever 12 see this before, where you lost annunciators and the full-13 core display?

MR. GERBERICH: No, not to my recollection, not
all of the annunciators, certainly.

MR. CONTE: Were you exposed to some annunciator
17 losses?

MR. GERBERICH: Yes. We've had some, a partial
loss of a board here and there, but nothing to this extent.
MR. CONTE: Okay. That's it.
MR. JORDAN: Thank you.

22 MR. CONTE: We're off the record.

23 MR. GERBERICH: Thank you.

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24 [Whereupon, at 3:40 p.m., the taking of the 25 investigative interview was concluded.]

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REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission

in the matter of:

NAME OF PROCEEDING: Int. of CHARLES GERBERICH

DOCKET NUMBER:

PLACE OF PROCEEDING: Scriba, N.Y.

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

JON HUNDLEY Official Reporter Ann Riley & Associates, Ltd.

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