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OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant
Interview of: MIKE ERON

Docket No.

LOCATION: Scriba, New York

DATE: August 17, 1991

PAGES: 1 - 38

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Exhibit 3-1 (continued)

ADDENDUM TO INTERVIEW OF Michael Ernst ASSS
(Name/Position)

Page	Line	Correction and Reason for Correction
TITLE	4	MICHAEL (This is my Name)
PG 1	7	MICHAEL (This is my Name)
~~2~~	~~5~~	~~low nc~~
3	3	"AN EE" "AN" IS GRAMATICALLY correct
4	19	"THE EXAMPLE I CAN" ~~the~~ THIS IS GRAMATICALLY CORRECT
7	17	"ROD LINE" RAD IS NOT CORRECT, Rod Refers to control Rods
7	25	SHOULD SAY "I ALSO OBSERVED THE ~~LIGHTS~~ WHITE
8	1	PILOT SOLENOID LIGHTS THEY WERE DE-ENERGIZED."
EXPLANATIONS FOR LINE 25 of Pg 7 & 1 of Pg 8, "Before" Refers to Before the MODE SWITCH WAS PLACED IN SHUTDOWN I OBSERVED THAT THESE SCRAM PILOT SOLENOID INDICATION LIGHTS WERE EXTINGUISHED.		
8	24	852 is the Correct # THAT IS where the NC
~~12~~	~~1~~	meters ARE LOCATED.
10	12	"I READ ~~ERIC~~ DON'S RAP-6 STATEMENT AND ESSENTIALLY IN Summary IT ~~Basically~~ SAID." REASON: "I READ from him is NOT correct & DOES NOT MAKE SENSE.
13	6	"SEALING STEAM" CEILING IS THE WRONG Spelling
13	15/16	'LOW VACUUM ALARM, LOW IS THE CORRECT TERM
NOTE THIS PARAGRAPH IS OUT of SEQUENCE. THE LOW VACUUM ALARM WAS NOT RECEIVED UNTIL ANNUNCIATORS WERE RESTORED.		
15	15, 18	STA SGA CS WRONG
17	20	STA SGA CS WRONG
19	2	BASED ON MY TRAINING - REASON: OMISSION OF "BASED"
~~20~~	7	BATTLE THE CASUALTY) BOIL IS IN CORRECT
21	14	GAMMONICS were out RE: ELECTRONIC IS NOT CORRECT
21	16/17	OPERATIVES INFORMED ME THAT ~~WE~~ OUR LEAKY WIRE SYSTEM WAS NOT FUNCTIONING. I KNOW THAT WE
~~22~~	1	HAVE A "LEAKY WIRE SYSTEM
22	11	"IT RAN THRU my MIND" RATHER IT RAN THE Bovel INSIDE me" IS
~~22~~	~~14~~	~~COMPANY~~ NOT IS NOT CORRECT.
22	14	EQUIPMENT RE: IN EXPERIENCE MAKES NO SENSE.
23	8	READINGS RE READS IN NOT CORRECT.

Page 1 of 2 Signature M-C Date 8/2/91

Exhibit 3-1 (continued)

ADDENDUM TO INTERVIEW OF MICHAEL ERIN ASSS
(Name/Position)

Page	Line	Correction and Reason for Correction
23	16	BATTLING Rel RAILING IS NOT CORRECT
24	6	DELETE THE "RE" BEFORE ISOLATORS
24	16	SSS LOG IS CORRECT SS LEVEL IS NOT
29	9	"IT WAS PRUDENT" RE: "IT WAS WORTHY" DOES NOT MAKE SENSE, PRUDENT IS MY MEANING
34	4	MR JORDAN ASKED ME IF ANY LPRM WERE NOT DOWNSCALE.
34	6	LPRMS NOT LPM's
34	22/23	UNIT COOLERS NOT UNICORS
36	21	H_2O_2 ANALYZER NOT H20

Page 2 of 2 Signature M C Date 8/4/91

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

INCIDENT INVESTIGATION TEAM

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Interview of :

MIKE ERON :

(Closed) :

- - - - - - - - - - - - - - - - - - - -

Conference Room B
Administration Building
Nine Mile Point Nuclear
Power Plant, Unit Two
Lake Road
Scriba, New York 13093
Saturday, August 17, 1991

The interview commenced, pursuant to notice, at 2:40 p.m.

PRESENT FOR THE IIT:

John Kauffman, NRC

Mike Jordan, NRC

PRESENT WITH MR. ERON:

Jerry Helker, Niagara Mohawk

P R O C E E D I N G S

[2:40 p.m.]

MR. KAUFFMAN: It's August 17, 1991, at about 2:40 in the afternoon. We're at the Niagara Mohawk Unit Two, P building. I'm John Kauffman. I'll be leading the interview. I'm with NRC/AEOD, Headquarters.

MR. JORDAN: I'm Mike Jordan. I'm with the NRC, out of Region III.

MR. HELKER: Jerry Helker, Niagara Mohawk, general supervisor of operations at Unit Two.

MR. ERON: Mike Eron. I'm an assistant station shift supervisor, and I'm on Unit Two.

MR. KAUFFMAN: Great.

Mike, to get started, I'd just like you to tell me a little about your background and what you've done and your experience in the different jobs you've had, and your education.

MR. ERON: Well, do you mean, just start from my education and work up till now? Is that what you want me to do?

MR. KAUFFMAN: Right.

MR. ERON: Okay.

I went to Geneseo State, and I studied physics there. I transferred on a 3-2 engineering program to Clarkson University in Potsdam, New York. I studied

electrical and computer engineering. On graduation, I received a physics degree, bachelor of arts in physics from Geneseo, and a bachelor in science and EE from Clarkson University.

I then was employed with General Electric, constructing over-the-horizon radar in Dallas, Texas, on transmitters, hundred-kilowatt transmitters. Then I was sent to Maine and worked on building the supporting antenna structures.

Then I took a job with Niagara Mohawk, December of, I believe, 1985, and I started as a maintenance engineer in electrical maintenance. I worked for Ken Sweet. I was in that job, I believe, for -- I worked in electrical maintenance for approximately two years, and then I worked in electrical engineering for six months. Then I started in operations in February of '89 as an assistant supervisor in training. I attended license class beginning in October of '89 through August of 1990, and I received my license -- I believe it was in October of 1990.

Since that time, I have worked -- let's see. I'm not exactly sure about those dates.

MR. KAUFFMAN: That's fine.

MR. JORDAN: We can get those dates off your license.

MR. KAUFFMAN: We're just looking for a ball park,

background, what knowledge you have as far as jobs go.

MR. ERON: I've worked since then as -- I was assigned a shift briefly during the end of the outage, and then I was taken off, and I was assigned as a relief SRO for pretty much the duration of this operational period -- since April 4, when we started up, through this period right now, I am the relief SRO.

MR. JORDAN: As a relief SRO, that means that you're not assigned to a shift.

MR. ERON: I'm not assigned to a shift.

I can explain it all to you if you want. I mean, we run a six-shift rotation, and each shift has an SSS and an ASSS. Some of the ASSS's are titled SSS's. There are really only three ASSS's. Basically, I'm the relief SRO, so, if somebody takes vacation or is sick, I fill in.

MR. JORDAN: So you can fill in for an SSS or an ASSS.

MR. ERON: I fill in for an SSS, but I do not fill in as an SSS. I guess the example can give you is, if a shift has an SSS and an ASSS on their shift and the SSS is sick or on vacation, I cannot fill in for the SSS, because then there would be two ASSS's. I mean, by law I could; I'm an SRO; I could do that.

MR. JORDAN: Right.

MR. ERON: But that's not my job title, and that's

not the precedent that has been set at Niagara Mohawk.

MR. JORDAN: Okay.

MR. ERON: But the majority of the shifts have two SSS's on their shift, and if one takes vacation then I can fill in, and then the other one becomes the SSS. That's how we do business.

MR. JORDAN: So you're always an ASSS on any shift.

MR. ERON: I'm always an ASSS on a shift.

MR. JORDAN: Okay. Good. I understand. Thank you.

MR. KAUFFMAN: I guess I would like you to -- One of the charters of our team is to try and create the event that happened on the 13th. In that regard, I guess we'd like you to tell us the plant conditions, activities, in general what was going on, prior to the loss of the UPS; and then, when it happened, what you saw and what you did.

MR. ERON: Where do you want me to start?

MR. KAUFFMAN: Just a general thing, like at 100 percent power.

MR. ERON: Well, I guess where I want to start is, I had covered for George Moyer on midnights from Saturday, the week before -- I don't know the exact date of what that is, but you could find that out. I worked Saturday midnight through Thursday morning. That was five days for

that week. Then, on -- [Pause]

So I started working for George Sunday the 4th. I worked from 10:30 till 6:30 the 4th through the 8th. Then I had Friday and Saturday off, and then I came in for Doug Richards, who is normally Mike Conway's counterpart. They're both SSS's, Doug and Mike. I started working with A shift on the 11th, so I was relatively familiar with the plant conditions, the equipment out of service, et cetera.

On that morning of the 13th -- You want me to give you a description of the event; is that it?

MR. KAUFFMAN: Yes, pretty much just what you saw, what you heard.

MR. ERON: Well, the first thing was the noise. It sounded like a large -- I'll call it a pop. I observed the loss of annunciators on 852, 851, 602, 603, and 601; those are the panel numbers -- except that there were six lights on 601. Two of them were annunciator power supply trouble alarms. At the time, I was reviewing the shift checks, which are the required surveillances for the shift, which is standard procedure, and was also working completing my turnover sheet for the oncoming shift, which would be there shortly. It was approximately quarter of the hour, 6 a.m.

I observed the loss of the annunciators, and I tired to evaluate the plant status: what was going on at the

time. Recirc pumps had down-shifted. Mike Conway, the SSS, on 601 was looking at level and pressure on the post-accident monitoring recorders. I recommended to Mike that we place the mode switch to shutdown.

At that time, I observed many other things. I don't know what you -- would you --

MR. KAUFFMAN: I'm more interested, I guess, in really what you saw, what you were thinking, why you did it.

MR. JORDAN: What you observed.

MR. KAUFFMAN: Yes.

MR. ERON: What did I observe? I cannot be 100 percent sure of the sequence of events, but I can tell you that, in the first two minutes, when we came to the front panel, I looked over at Mike, and we were very concerned. He was looking at level and pressure on the PAM recorders. The recirc pumps had down-shifted. I reviewed OP-101-D. We were above the 100 percent rad line; that required a scram. I verified APRMs in the back. I don't know if I went to the back first or recommended the mode switch to shutdown first, but I recommended to Mike placing the mode switch to shutdown.

At that same time, Mark Davis said, We are losing feed pumps, reactor water feed pumps. Then Mike directed Mark Davis to place the mode switch to shutdown.

I also observed that the white lights before pilot

solenoids, they were de-energized. I did go to the back panel and verified that the APRMs were down-scale on the meters and the indications of the -- I'll call them, for want of a better term, the big, dumb, and ugly lights, if you know what I'm talking about.

MR. JORDAN: But, for the record, tell him what they are.

MR. ERON: Oh. Big is bypass, Dumb is down-scale, and Ugly is up-scale.

MR. JORDAN: These are lights for what?

MR. ERON: The LPRM indications.

MR. HELKER: It's an acronym used to remember what those lights are, what they mean?

MR. ERON: Right.

MR. JORDAN: Okay.

And what did you see on those? Which ones of those were lit? Were they all lit, or which ones were lit?

MR. ERON: There were several lit. I verified the meters down-scale. On the second panel in from the left, I verified on that panel that the majority of the LPRMs were down-scale. At that time, I did a couple things, and, again, I can't remember the exact order.

I verified that we had DC power on the back of 851, and we did have all voltage on all our DC buses. I verified that house loads had transferred from the normal

station service to the reserve station service transformer.

I called the Unit One SSS and had him make the announcement that the plant is scrammed and that you need to announce that to get my people to come to the control room. Because I attempted to make the announcements on our Gaitronics system, and they had failed.

MR. JORDAN: Do you know if that was successful?

MR. ERON: I heard the announcement through the phone. In other words, I heard their CSO blow the alarm, and I could hear it through the phone.

MR. KAUFFMAN: You heard them make it, but you didn't hear it coming.

MR. ERON: That's right. It did not work in our plant. It worked at Unit One.

MR. KAUFFMAN: Okay.

MR. ERON: This is what I found out later. I don't know if you're interested in this, but it was beneficial. I believe the plant manager at Unit One was in at the time, and I know an assistant electrical maintenance supervisor was in at the time, and they began to staff the TSC and the OSC.

I came out of the SSS office, and I said to Mike Conway, Mike, I believe we're in alert. At that time he himself and Al Denny were reviewing EAP-2, figure 2, and Mike responded to me, No, Mike, we are in a site area

emergency for loss of annunciators and plant transient in progress.

Immediately I called Unit One again, to tell them they need to announce this, and they did. Then I directed Don Bosnic, who was the oncoming ASSS, to call rad waste to send the communicator to the control room.

MR. JORDAN: Is Don Bosnic your replacement?

MR. ERON: Yes.

MR. JORDAN: Was he there when this thing started?

MR. ERON: I read his -- This is the reactor analyst procedure number 6. It documents the plant scram. I read from him. He was coming into the plant; he heard a noise, came into the control room, expected to hear several annunciators, heard none, so he was there shortly before 6 o'clock. I don't think he was there for putting the mode switch to shutdown, but he was there for --

MR. JORDAN: Early in the program.

MR. ERON: Early.

Again, I'd like to stress that all these events that I have discussed up to this time happened within the first five to ten minutes of the event. Their sequence may not be proper.

Also during this time, or shortly after that, I verified that we did have a reactor scram by checking the trip lights on panel 609 and 611. I also verified that the

scram dump volume was full by the Rosemont transmitter indicators in the back.

MR. JORDAN: And we don't know if you did that before.

MR. ERON: That was after I called the Unit One.

MR. JORDAN: So they've already done the manual scram.

MR. ERON: Yes.

MR. JORDAN: Okay.

MR. ERON: I mean, I can read to you --

MR. JORDAN: No, that's fine. I was just curious, Mike, if you had an idea where in the scheme of things that those were checked. That's fine.

MR. ERON: That was definitely after the manual scram.

MR. JORDAN: Okay.

MR. ERON: One thing that I was working on that I was, I guess, very concerned with -- Well, during this time I had an operator -- I can't remember specifically if I did it or I went through Mike Conway, but I know an operator went out and checked UPS's, because I had confidence, because of the loss of the full core display, the loss of the Gaitronics, the reports that lighting had failed, that we had a problem with UPS's. This has been known in past scrams: that UPS I believe 1-Delta and 1-Charlie had had

problems. Also, there was an event where maintenance was working on -- I believe it was UPS 1-Alpha and we had a problem with the full core display at that time. So UPS's were suspect, in my mind.

Operators were dispatched to check UPS's, and they came back with reports that the 1-series UPS's all had all their breakers open. Mike Conway directed them to restore them, and he sent Dave Hanczyk -- and I have written down that Mike Garbus, who was a relief operator -- they both went out there to restore the UPS's.

During this time, without the UPS's, we had no rod indication; we lost our drywell cooling; and we were concentrating on controlling pressure and level.

During this time, also, I was assisting Mike Conway in executing EOPs. Again, with the loss of drywell cooling, I was very concerned with the containment. I took time to review prints to figure out why we could not restart drywell cooling. Temperatures were increasing, and I guess in my opinion that was a very, very big concern, because a trip on a high drywell pressure would have complicated matters significantly.

Within that short period of time, I did understand why we weren't getting the override to work properly and continued to monitor the containment parameters to recommend actions to Mike Conway, if necessary. That was not

required; that never was required.

Also, one thing that I worked with Mark Davis on through Mike Conway was maintaining the balance of plant. We had Jim Stevens, an operator, sent down to the auxiliary boilers to get them started so that we would have a source of ceiling steam through our clean steam reboilers to maintain our vacuum.

We also had several mark-ups on our residual heat removal Bravo and Charlie systems for normal maintenance that we had just approved and hung those mark-ups. Our mark-ups --

MR. KAUFFMAN: It's like a tag-out.

MR. ERON: Right. It's our protection system for our accident prevention rules.

Those mark-ups were restored. Also, we received a full vacuum alarm. We didn't know what our vacuum indications were, so we dispatched operators locally to verify our vacuum, and we eventually made arrangements, after the UPS's were restored, to keep the vacuum with the air removal system. They're called the hoggers.

MR. KAUFFMAN: Right.

MR. ERON: Also, as another contingency, we cleared our hold-outs for the steam condensing system. Their valves are de-energized for Appendix R considerations.

MR. JORDAN: Steam condensing?

MR. ERON: Steam condensing is a mode of RHR, residual heat removal, which utilizes the heat exchanger to condense steam drawn off through the RCIC, reactor core isolation cooling system, and then sends that to the suppression pool.

MR. JORDAN: Which system were you planning on using?

MR. ERON: The Alpha system.

MR. JORDAN: A, the Alpha RHR?

MR. ERON: Right.

As far as level control, I wasn't involved in this; I found this out afterwards, about the level control, that they were using RCIC. Mike directed that immediately when the feed pumps were lost. At that time, I was in the office working on some of the administrative things that we had to take care of. But they initiated RCIC to control level because the feed pumps had gone away, and they also placed RHR-A in suppression pool cooling, since they had RCIC steam exhausting to the suppression pool.

Eventually, they restored the annunciators. When we were able to maintain our condenser, we took the plant to a normal shutdown.

MR. KAUFFMAN: What time did your normal relief come and relieve you so you could go home?

MR. ERON: We were relieved at approximately 11

o'clock the next morning.

I guess one thing that I didn't mention, probably, was another thing that I helped work on: Our procedures tell us that we need to verify rod position, and in certain procedures we're only allowed to exit them -- these are emergency operating procedures -- when certain conditions, and one of those conditions is, all rods are at zero-two or full in, so I would work with Dave Rathbun, with Mike Conway, on executing those procedures during this time, during the loss of annunciator time.

MR. KAUFFMAN: We're going to go back with a couple follow-up questions. One, I guess, is, I've only been here on site a day now. My understanding is that you were the assistant shift supervisor, and then, when an event happens, you full the SGA position. The SGA position is used differently and defined differently, and people have different responsibilities all over the country, so just in general, if you could outline for me what the SGA job responsibilities are during an event.

MR. ERON: Well, there a written procedure, I believe, on an ODI that outlines it detail for detail. I guess I'll tell you what we're trained to do.

MR. KAUFFMAN: Sure. We're looking for generalities.

MR. ERON: In dynamic scenarios, we monitor the

plant status using significant use of the SPDS -- safety parameter display system -- that is on our emergency response facility computer. That was out of service at that time. So utilizing the analog information available on panel 601 and 870 and 871, I kept the SSS informed.

Like I said, I concentrated mostly -- I felt my job in that situation was contingencies, because Mike had plenty of operators on pressure control and level control, and we didn't have any problems with our containments, but we had the potential for problems on our containment. And also balance of plant -- again, the suppression pool is part of the containment; we wanted to maintain our condenser and use that as our heat sink. I guess containment and BOP, I felt, were the big-picture items that I needed to maintain.

Also, I made sure that the emergency functions that the SEPC was responsible for carrying out got implemented -- i.e., accountability, people coming in.

I guess I take that back. First of all I was concerned with getting the communicator in the control room, getting the fact sheet filled out, getting the state and county warning points notified, getting the NRC notified. I made sure that happened.

And then things like accountability -- I made sure that we were kind of addressing that in the control room, and coordinating a little bit with the TSC, helping Marty

get a turnover; that's another thing I worked on.

Like it says in our procedures, I interrupted the SSS -- he was conducting other things -- when certain parameters, I felt, were getting in a position that he needed to address them. I interrupted his conversations and said, Mike, you need to look at this; this is important; we need to do something. So I kind of was a second pair of eyes and ears for the SSS.

Also, fending off superfluous --

MR. KAUFFMAN: Were you crowd control?

MR. ERON: No, I was not crowd control, but we did have to clear the control room, I think, three times. But information was being passed to Mike. For example, a new release was for review. I reviewed it and tried to tell those people, Look, you don't need to be sending that stuff up here; that's not what Mike needs to do now. I tried to handle any phone calls for him and any information people needed on the status and things like that.

MR. HELKER: I think your original question was what his responsibilities were as SGA; is that correct?

MR. KAUFFMAN: Yes.

MR. ERON: I think your best answer to that question -- that's what I felt during that event. There is a written procedure in the ODIs that can tell you exactly what they are.

MR. KAUFFMAN: We have a general question. When you look back on this event and everything that happened, it was a big challenge, and there were lots of equipment problems, lots of things to do. One of the things we're trying to capture is anything that helped you in dealing with this difficult and complex situation that might not be normal or that other people could learn from. We'd like you to tell us about it. Conversely, if you could have had anything to help you that you didn't have, if you have any ideas for what could have helped.

MR. ERON: I guess I don't -- Could you maybe break that down into -- I guess I really don't know what you mean.

I mean, I can tell you a lot of things that I don't have.

MR. KAUFFMAN: Well, if you have simulator training and you found that that was real helpful in diagnosing this and figuring out what was going on. Or the EOPs just led you through it, crystal-clear.

MR. ERON: I guess the thing I'd like to say is that our procedures and our training are symptomatic-based. I didn't need to know that transformer B blew up -- or I won't say "blew up"; I'd like to change that --

MR. KAUFFMAN: Sure.

MR. ERON: Transformer B failed and caused the

failure of the 1-series UPS's. I didn't need to know that on my training. My trainers taught me that, here are your entry conditions; these are the parameters we're concerned about. Do you know them? What do you know? What don't you know? Based on what you do know, these are your procedures that you follow.

I think there was maybe a minute or two where we were kind of in disbelief, but, once we overcame that human reaction, Mike entered the EOPs, I assisted him in doing the EOPs and carried out the emergency plan, and we looked for contingencies. That's one thing that was forefront in my mind, because that's something we had just covered last cycle in training.

MR. JORDAN: Did you feel comfortable with the EOPs? Did you feel they were a very good benefit to you, or did you feel there are better ways of handling this?

MR. ERON: I don't know. I only know our EOPs; I only know what I have been taught here. I don't have any other experience.

MR. JORDAN: No, I'm just curious. Do you feel comfortable with the fact that the EOPs got you through this program, or this event?

MR. ERON: Yes. I feel very comfortable -- Well, I won't say I feel very comfortable, because I -- I'm trying to use them; I know how to use them. Mike was our

leader and did a great job, and I assisted him. When he had questions, I helped resolve them with him. Things that he missed that I didn't, we'd work together. We took our time; we read the procedures; we made our decisions; and we executed them as we were trained to.

I guess in answer to your question, our training was -- helped us very much to bail the casualty. Now if you want to repeat the question again.

MR. KAUFFMAN: I was just -- I guess the specific is if you had good things to say about anything? For example, maybe -- not trying to put words in your mouth, I'm trying to give you an example -- is there's lots of training, maybe it was UPS scenarios helped you. Maybe it was command and control and formal communications that allowed everybody to understand and to know what was going on. Maybe it's the way you debrief and communicate, you know --

MR. JORDAN: If you've the event like this before in training where -- what things that you felt you relied on that were really comfortable because of something that was provided to you? I think that is a -- just in generalities.

MR. ERON: Like I said before with the AIT, everything as far a training goes, you know, down from lessons learned and SOERs and even just events that the operators discussed among themselves, you know, all those

kind of things helped, you know, so training was definitely a plus.

I don't really know what else to say.

MR. KAUFFMAN: That's fine. We know there were problems in this event with lighting and communications and you worked around some of this by calling Unit One control room. Did you get information from people that went out in the plant or came back making reports about how much lighting was gone or did you run into problems trying to tell people what to do or getting information back from them due the phones being out or anything.

MR. ERON: The phones were not out.

MR. KAUFFMAN: Oh, I'm --

MR. ERON: The electronics were out.

My first reaction when the Gaitronics were out was operators take radios. Operators informed me that we had Leaky Wire system that allows us to use radios in the plant.

MR. JORDAN: What is Leaky Wire?

MR. ERON: It's a system in the plant that allows the uses of radios. Basically it's an antenna throughout the plant.

MR. JORDAN: But Leaky Wire is the system.

MR. ERON: Right.

MR. KAUFFMAN: We heard this last interview. We didn't ask about it.

MR. JORDAN: I just want to make sure that when it goes --

MR. ERON: Leaky Wire is a radio frequency system that allows operations of hand-held radios throughout the plant and that system was down and Gaitronics were down.

Now lighting has been a problem before in the past. April, 1987 we took a scram. The lighting was out. I was in the normal switch gear at the time and had a difficult time finding my way out of the plant so again when I heard that these guys were having problems with lighting I knew -- or it ran the bowel inside me that, hey, this is a UPS, 1D, 1C problem, okay?

Loss of Gaitronics also rang a bell in my head that this was a UPS-1 -- I think it is 1-C or D, also that comes off Gaitronics.

MR. KAUFFMAN: You knew this from experience?

MR. ERON: From experience. My experience -- I mean my experience on electrical, in experience, right? We also had a report that the UPS-2A series, which is your emergency UPS, is Division 1 and Division 2, right? You're familiar with those?

MR. JORDAN: No, but that's okay.

MR. ERON: Are separated buses required by the Reg Guide -- I guess 1.97 or 1.75.

MR. KAUFFMAN: 197.

MR. ERON: 197, right, those series of UPS's. We got reports that they were in service and I know just because I know that all our 601 instrumentation, the instrumentation that we are relying on, are fed from those UPS's so I had a good deal of confidence that our pressure and level indications were correct.

Mike Conway also dispatched a non-licensed operator to Reactor Building 261 to get local reads. That was also beneficial in backing up our information.

MR. HELKER: That was local readings on reactor water level and pressure, instruments that are independent of power.

MR. JORDAN: Thank you.

MR. ERON: So I guess another thing that was beneficial for me was my electrical background and being able to support the team and again bailing the casualty.

MR. KAUFFMAN: Just a general question. Obviously, while this is all going on I think most people are probably real busy and log-keeping probably wasn't a real high priority so I have been asking people how they kept or tracked information, how they did their logs, how they got the information.

MR. ERON: I guess -- this is the way I see it. Initially we didn't keep a log of exactly what happened and what we did was Don Bosnic, like I said, he came in shortly

after, he kept a record of events that he was working on and then eventually we -- Jerry kept a record at some events as far as specific times, what happened.

I know on EOP, some of the EOP stuff I think like for example when the attachment for reactor water level with re-isolations was completed, EOP-6, Attachment 1, I logged the time on the EOPs that that was completed.

I know eventually when things started kind of we got a little more control of the situation, we assigned an operator to take a log.

I guess in training that's not something that we do and I think it's a reason because of manpower, right?

Initially there was myself, Mike Conway and Mark Davis in the control room and then you know other people came in.

MR. HELKER: The way the SS level is reconstructed was there's a few of us who were taking notes -- like here is an example of my notes that I took that morning. At 0627 I entered the control room and here is what I saw and just kept writing -- and what Don did is he took my notes and other people's notes where they kept track of what time and compiled them into what he put in his log. Actually Mike Garbus was out there keeping track and running with everything going on.

Does that answer your question?

MR. KAUFFMAN: Yes. The reason I originally asked it is when I looked at Mike Conway's log, you know, it was kind of -- it was a lot more legible after the event than before.

MR. HELKER: That was written by Don Bosnic some time later in the middle of the morning, taking all of the information that several of us had written down.

MR. ERON: Before the log was put into the SSS log, right, that was hand written, it was reviewed by myself. I reviewed that so -- and Mike signed it, right, so he reviewed it also.

MR. KAUFFMAN: We're not questioning what it says or it's just --

MR. HELKER: So we're able to reconstruct this -- we want to be able to do it.

MR. KAUFFMAN: We're not looking at emergency planning but event reconstruction.

MR. HELKER: That's how we get --

MR. KAUFFMAN: -- is an important function especially in this case where at least for a little while all the alarms and SPDs and alarm printers went out and so it's not -- I would imagine emergency planning people are going to be looking in their inspection, they are going to be looking at that closely but to us it's just we're curious as to how it was handled.

I guess I am also curious how getting information to the TSC was handled on plant parameters and they're I think being a new plant are normally used to getting SPDS and this information right off of computer screens and I don't know if you have anything to -- if you know how that was handled or not, but if you do I guess that's the question.

MR. ERON: I guess as far as emergency response by the emergency plan -- or the TSC staff and the OSC and security, I know I was questioned more than once by people down there at what time did you declare an alert.

We never declared an alert, right? I think, Mike, you must know from training examiner standpoint, you know you give a group a scenario, generally the event that we see in training and as with this event you are there at these higher level classifications immediately and I know in emergency planning it's usually a usual event and they use their procedures and for lack of better words they flip pages, and then you go to an alert, and so people would questioning me, when did you go to an alert? I was trying to explain to them that, you know, this is it.

MR. JORDAN: You never went to alert.

MR. ERON: Right, so I think that caused some problems with our security people and the turnover phase onto the TSC.

MR. JORDAN: About transmitting information --

MR. ERON: I suspect we had the power restored in half an hour and the TSC turnover wasn't till I think 7:00.

MR. HELKER: 7:28.

MR. ERON: 7:28, so that is more than an hour after we restored power, they had their displays down there.

MR. KAUFFMAN: Right.

MR. ERON: Before it was manned, right? So --

MR. HELKER: There were people in TSC was at 7:02 when I talked to Ray Dean down there to give him an update what was going on.

MR. KAUFFMAN: We like to do what-if's, right -- do you think it would have been easier to get them information -- in this I guess case you had all kinds of extra people there but if it would have been on night shift or the middle of night shift and you didn't have extra people, would getting them information have been a problem?

MR. ERON: I cannot answer that question. The only thing I can say to that, and this is a what-if, right?

MR. KAUFFMAN: Sure, that's all we want.

MR. ERON: I would suspect that I would have advised the SSS who was the site emergency director not to turn over to the TSC until they have established some method to communicate this information to that person, right,

besides the computer.

That is just my own personal opinion, right, I mean --

MR. KAUFFMAN: I haven't looked at your E-Plan and I guess what I know is typical of a lot of plants is they have a data taker in the control room and a data taker -- this is what you did in the old days before all these computers, right? The data taker, the data marker and data taker.

MR. ERON: TSC still gets updates over the phone every 15 minutes to update their status boards irrespective of any computers.

MR. KAUFFMAN: So that mechanism is there is what you are telling me.

MR. ERON: Yes.

MR. KAUFFMAN: Okay.

MR. ERON: I gave several updates throughout the event.

MR. KAUFFMAN: Even after the computers came back on line.

Turn it over to you.

MR. JORDAN: The recommendation you gave the SSS to manually scram, you were in the role of the STA at that time, is that correct?

MR. ERON: No.

MR. JORDAN: What role were you in? I guess what I am trying to find out is --

MR. ERON: I guess that's, the way I spoke was a tribute to our training, right? He's the SSS. He has the shift. He is responsible. I am an SRO. You know, I see indications requiring a scram, you know, if he wasn't available, right, I am responsible to take those actions. I mean he's standing ten feet away from me, he ultimately has the responsibility so I thought it was worthy and that's how we're trained, you know -- I am an ASSS. I make the recommendation to the SSS the place the mode switch in shutdown. He concurred. The RO concurred, obviously, because he performed the action so that's just how we're trained.

MR. HELKER: That's the way administrative procedures are. Only the SRO in charge of the control room has the authority to shut down the reactor --

MR. JORDAN: Okay, but if -- I guess the question I have is that if you felt, did you feel the constraint that that's how the procedures are, that you had to get the permission to authorize it first or are you authorized to go ahead and if there was another condition that --

MR. ERON: You mean if he was in the bathroom or something?

MR. JORDAN: No, if there was another condition

separate from this transient that would allow you -- is there some that restrains you from performing a manual scram or do you have to get authorization before you perform the manual scram?

MR. ERON: I guess it depends on -- I guess it would depend on the situation. I can tell you that if Mike, well, if the SSS is within -- you know, if I can communicate to him, Mike, I recommend placing the mode in shutdown, that's how we are trained to do it.

If we was out in the bathroom, or not in the control room in that situation or in a scram signal is received, I am in charge. I am going to tell the CSO or the reactor operator to place the mode switch in shutdown.

MR. HELKER: All that is consistent with the way our administrative program is.

MR. KAUFFMAN: I'll ask does it address the situation if he says no and you think, you know, you really have a trip signal and the procedures require it, does it address how that is resolved?

MR. HELKER: Administrative procedures? Do they address that?

MR. KAUFFMAN: Under conduct of offices, is that addressed? Is that resolved? Do I say it's my licensed duty and I am going to do this and I'll take the consequences or do I have to say if I can't live with this I

have to quit? I mean, I guess, you know, what is the resolution if there is a disagreement?

I guess I should be addressing it to the interviewee.

MR. ERON: The situation, this situation was very clear that a scram was required.

MR. KAUFFMAN: Right.

MR. ERON: And I can really not think -- I mean -- of a situation that it would be -- I'll tell you right now, this was a situation where that was the biggest -- and we had indications of possibly still being at full power based on the APRM chart reporters.

We had other indications that said our plant was shutting down. You know, this was a situation for your exact question and there was no disagreement in the control room. A scram was required. Conditions were unknown or we were not sure of our conditions enough to place the mode switch in shutdown.

I mean if you got two red lights up there on A and B channel or if you have got water level indication by two independent means that you are below scram set point and you don't have it, that's how we're trained. You put the mode switch in shutdown, so that hypothetical question I cannot think of a scenario. This is probably one of the best scenarios that would bring that up and our actions, as you

can see, were in agreement. I mean three reactor operators were in 100 percent agreement that this is the correct thing to do so I don't see based on our training a plausible, realistic situation that would cause for such disagreement that could not be resolved in a matter of seconds.

MR. KAUFFMAN: I am not questioning whether what was done was right or wrong.

MR. ERON: I understand.

MR. KAUFFMAN: I am trying to -- you I guess aren't at the controls maybe, you know, that it wouldn't be normal to expect you to go and operate the switches. I guess my question is more really directed at the reactor operator.

If this is a problem, does he take the switch and the buttons or does he recommend?

MR. HELKER: Reactor operators are also administratively required to shut down the reactor if the director feels is appropriate.

MR. KAUFFMAN: With or without concurrence?

MR. HELKER: Without the concurrence of the SSS.

MR. KAUFFMAN: I can barely hear you.

MR. KAUFFMAN: I'm trying to what the recommendation --

MR. HELKER: Right. The SRO in the control room, the nuclear operator EE in the control room and the RO have

the authority to shut down the reactor operator independently of authority from anybody else.

MR. KAUFFMAN: I didn't hear that.

MR. HELKER: The SRO in charge of the control room, in this case it was the SSS, the CSO or the nuclear operator EE have the authority to shut down the reactor whenever they feel it is appropriate. That is written in our administrative procedures. The CSO doesn't have to stop and go get the SSS's permission to take the mode switch to shutdown if he sees we exceed an RPS set point. He is required to do it himself.

Did I answer your question?

MR. KAUFFMAN: Yes, you did.

MR. JORDAN: You answered mine. I understand, Jerry, at least your position on what you --

MR. HELKER: Mike doesn't have to call me at home either, all right?

MR. JORDAN: I understand.

I have got just two other questions that I know of anyway.

You mentioned that after you had the discussion on the scram and you checked the APRMs on the back panel, and the lights on the back panel, that the majority of the APRM were downscale, a majority of the lights were downscale.

Was there some that weren't downscale? Were there

some that were upscale?

MR. ERON: I saw no upscales.

MR. JORDAN: No upscales. Okay, did you see any that were downscale?

MR. ERON: Bypassed? I did not. I did not. There obviously are some LPMs back there bypass because that is documented in our equipment status log but the ones I looked at were all downscale.

MR. JORDAN: Downscale. You did not see any that were not downscale?

MR. ERON: That is a true statement.

MR. JORDAN: That were not already bypassed.

MR. ERON: That is true.

MR. JORDAN: You mentioned also that you were monitoring the drywell containment parameters?

MR. ERON: Correct.

MR. JORDAN: And the temperature was going up and that was a concern to you? Can you give me an idea of how hot it gets, to what levels they were going to -- how hot was it in the drywell?

MR. ERON: My last reports before the restart -- and the UNICORs, well, the power was restored and the UNICORs restarted, the highest temperature was 165 and the lowest temperature was 120.

MR. JORDAN: Okay. At what point is the drywell

temperature --

MR. ERON: 150 degrees is the EOP entry condition and that is based on average temperature.

MR. KAUFFMAN: That's EOP. Okay. That's above temperature and so you would have to I guess do a calculation to get that.

MR. ERON: Right.

MR. HELKER: All the EOP parameters are based on average, average values, with the exception -- unless it specifically says in one case we use highest drywell temperature.

MR. JORDAN: How about what are the drywell containment parameters you were monitoring and whether there was any other problems with any of the other ones?

MR. ERON: Pressure.

MR. JORDAN: Is pressure one? Okay.

MR. ERON: Right and --

MR. JORDAN: Was that a problem?

MR. ERON: No. It was never a problem. The meters are banded, right, and I don't know what the exact numbers are but the meters are banded, right?

White is good, yellow is not so good and red is bad, right? So we approached the yellow. We never crossed into the yellow zone. I don't know. I don't want to say it's .8 pounds. That's the alarm -- .7 or .8 is the alarm

set point and 1.68 is the scram or trip, isolation.

MR. JORDAN: So you were always in the white, so whatever the high band of the white was is the highest that it could possibly could have gotten to?

MR. ERON: For pressure, that's correct.

MR. HELKER: You can take that right off -- you can get the information right off the recorders.

MR. JORDAN: That's fine. What about the -- any other parameters that were monitored, Mike?

MR. ERON: Well, condenser vacuum but it was pretty tough to monitor.

MR. JORDAN: Containment, I'm sorry.

MR. ERON: The level in the suppression pool.

MR. JORDAN: And that was no problem?

MR. ERON: That was not a problem. Hydrogen and oxygen.

MR. JORDAN: Any problems there?

MR. ERON: Well, there was a problem with one of the sample pumps. I found this out later. What I knew during the event is that each hydrogen and oxygen concentration I believe it is the Division 2 H20 to analyzer spiked. I don't know what the exact value of the spike was, okay?

That was a concern and we requested chemistry to make a sample, okay, and subsequently I found out that one

of the sample pumps had tripped and that that had been restored and that hydrogen and oxygen levels trended down and the sample was never taken.

Then of course suppression pool temperature monitored that.

None of those other parameters was a problem.

MR. JORDAN: The only one that had any sort of a problem was drywell temperature?

MR. ERON: That's correct.

MR. JORDAN: Okay, thank you.

MR. KAUFFMAN: Is that it?

MR. JORDAN: That's all I have. I don't have anything else.

MR. KAUFFMAN: I have -- it's not really a question. I would just like to give you the opportunity if there is anything you would like to say or comment about or do you want to say that anybody did well for the record, or just it's your opportunity.

MR. ERON: Well, I guess if this is my opportunity I would like to say that I thought that Mike Conway was outstanding in his performance as our SSS and our team leader and that the reactor operators, Mark Davis, Steve Hanczyk, Mark Bodoh, performed outstandingly as reactor operators so I guess, you know --

MR. JORDAN: You felt comfortable with this shift?

MR. ERON: Yes, and, well, you guys understand, this is not my regular shift.

MR. JORDAN: I understand that. You step into a shift and you fill in for a person and you're saying that you are thankful that that was a good shift that you worked with and that's good.

MR. HELKER: Just have to say that.

MR. JORDAN: That they're any better than anybody else, I understand that. They're all good.

MR. ERON: And all the other people that as they came in the control room for their normal job that they were able to support us, you know, all the relief operators that were on days and all the people for the shift on days that was coming in to take the shift, you know, were able to just either they stayed out of the way or they made themselves very useful to us.

I guess, you know, people -- I guess the other people are the non-licensed operators that supported us in the plant with the lights out and did an excellent job.

MR. KAUFFMAN: Good.

MR. JORDAN: That's all I have.

[Whereupon, at 3:38 p.m., the taking of the investigative interview was concluded.]

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 MIKE ERON

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

JON HUNDLEY
Official Reporter
Ann Riley & Associates, Ltd.

07-115B-9

OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant
Interview of: MIKE ERON

Docket No.

LOCATION: Scriba, New York

DATE: August 17, 1991

PAGES: 1 - 38

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Exhibit 3-1 (continued)

ADDENDUM TO INTERVIEW OF MICHAEL ERIN ASSS
(Name/Position)

Page	Line	Correction and Reason for Correction
TITLE	4	MICHAEL (THIS IS MY NAME)
PG 1	7	MICHAEL (THIS IS MY NAME)
~~2~~	~~5~~	~~to~~ MC
3	3	"AN EE" "AN" IS GRAMATICALLY CORRECT
4	19	"THE EXAMPLE I CAN" . THIS IS GRAMATICALLY CORRECT
7	17	"ROD LINE" RAD - IS NOT CORRECT, RAD Refers to control rods
7	25	SHOULD SAY "I ALSO OBSERVED THE ~~LIGHTS~~ WHITE
8	1	PILOT SOLENOID LIGHTS THEY WERE DE-ENERGIZED."
		EXPLANATION FOR LINE 25 of Pg 7 & 1 of Pg 8, "Before" Refers to Before the MODE SWITCH WAS PLACED IN SHUTDOWN I OBSERVED THAT THESE SCRAM PILOT SOLENOID INDICATION LIGHTS WERE EXTINGUISHED.
8	24	852 is the Correct # THAT IS where the DC
~~12~~	~~1~~	meters ARE LOCATED.
10	12	"I READ ~~FROM~~ DON'S RAP-6 STATEMENT AND ESSENTIALLY IN Summary IT ~~WAS~~ SAID" REASON: "I READ from HIM IS NOT correct & DOES NOT MAKE SENSE.
13	6	"SEALING STEAM" CEILING IS THE WRONG SPELLING
13	15/16	LOW VACUUM ALARM, LOW IS THE CORRECT TERM NOTE THIS PARAGRAPH IS OUT of SEQUENCE. THE LOW VACCUUM ALARM WAS NOT RECEIVED until ANNUNCIATORS were RESTORED.
15	15, 18	STA SGA IS WRONG
17	20	STA SGA IS WRONG
19	2	BASED ON MY TRAINING - REASON: OMISSION of "BASED"
20	7	BATTLE THE CASUALTY BOIL IS IN CORRECT
21	14	GAMMONICS were out RE: ELECTRONIC IS NOT CORRECT
21	16/17	OPERATORS INFORMED ME THAT ~~WE~~ OUR LEAKY WIRE SYSTEM WAS NOT FUNCTIONING. I KNOW THAT WE
~~22~~	1	HAVE A "LEAKY WIRE SYSTEM
22	11	"IT RAN THRU my MIND" RE: IT RAN the BOWEL INSIDE me" IS
~~22~~	~~18~~	~~PROOF~~ NOT IS NOT CORRECT.
22	18	EQUIPMENT RE: IN EXPERIENCE MAKES NO SENSE.
23	8	READINGS RE. READ IS NOT CORRECT.

Page 1 of 2 Signature M-C Date 2/21/91

Exhibit 3-1 (continued)

ADDENDUM TO INTERVIEW OF MICHAEL ERN ASSS
(Name/Position)

Page	Line	Correction and Reason for Correction
23	16	BATTLING Re: BAILING IS NOT CORRECT
24	6	DELETE THE "RE" BEFORE ISOLATIONS
24	16	SSS LOG IS CORRECT SS LEVEL IS NOT
29	9	"IT WAS PRUDENT" RE: "IT WAS WORTHY" DOES NOT MAKE SENSE, PRUDENT IS MY MEANING
34	4	MR JORDAN ASKED ME IF ANY LPRM WERE NOT DOWNSCALE.
34	6	LPRM'S NOT LPM'S
34	22/23	UNIT COOLERS NOT UNICORS
36	21	H_2O_2 ANALYZER NOT H2O

Page 2 of 2 Signature M L Date 6/11/91

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

INCIDENT INVESTIGATION TEAM

- - - - - - - - - - - - - - - - - - - -

Interview of :

MIKE ERON :

(Closed) :

- - - - - - - - - - - - - - - - - - - -

Conference Room B
Administration Building
Nine Mile Point Nuclear
Power Plant, Unit Two
Lake Road
Scriba, New York 13093
Saturday, August 17, 1991

The interview commenced, pursuant to notice, at 2:40 p.m.

PRESENT FOR THE IIT:

John Kauffman, NRC

Mike Jordan, NRC

PRESENT WITH MR. ERON:

Jerry Helker, Niagara Mohawk

P R O C E E D I N G S

[2:40 p.m.]

MR. KAUFFMAN: It's August 17, 1991, at about 2:40 in the afternoon. We're at the Niagara Mohawk Unit Two, P building. I'm John Kauffman. I'll be leading the interview. I'm with NRC/AEOD, Headquarters.

MR. JORDAN: I'm Mike Jordan. I'm with the NRC, out of Region III.

MR. HELKER: Jerry Helker, Niagara Mohawk, general supervisor of operations at Unit Two.

MR. ERON: Mike Eron. I'm an assistant station shift supervisor, and I'm on Unit Two.

MR. KAUFFMAN: Great.

Mike, to get started, I'd just like you to tell me a little about your background and what you've done and your experience in the different jobs you've had, and your education.

MR. ERON: Well, do you mean, just start from my education and work up till now? Is that what you want me to do?

MR. KAUFFMAN: Right.

MR. ERON: Okay.

I went to Geneseo State, and I studied physics there. I transferred on a 3-2 engineering program to Clarkson University in Potsdam, New York. I studied

electrical and computer engineering. On graduation, I received a physics degree, bachelor of arts in physics from Geneseo, and a bachelor in science and EE from Clarkson University.

I then was employed with General Electric, constructing over-the-horizon radar in Dallas, Texas, on transmitters, hundred-kilowatt transmitters. Then I was sent to Maine and worked on building the supporting antenna structures.

Then I took a job with Niagara Mohawk, December of, I believe, 1985, and I started as a maintenance engineer in electrical maintenance. I worked for Ken Sweet. I was in that job, I believe, for -- I worked in electrical maintenance for approximately two years, and then I worked in electrical engineering for six months. Then I started in operations in February of '89 as an assistant supervisor in training. I attended license class beginning in October of '89 through August of 1990, and I received my license -- I believe it was in October of 1990.

Since that time, I have worked -- let's see. I'm not exactly sure about those dates.

MR. KAUFFMAN: That's fine.

MR. JORDAN: We can get those dates off your license.

MR. KAUFFMAN: We're just looking for a ball park,

background, what knowledge you have as far as jobs go.

MR. ERON: I've worked since then as -- I was assigned a shift briefly during the end of the outage, and then I was taken off, and I was assigned as a relief SRO for pretty much the duration of this operational period -- since April 4, when we started up, through this period right now, I am the relief SRO.

MR. JORDAN: As a relief SRO, that means that you're not assigned to a shift.

MR. ERON: I'm not assigned to a shift.

I can explain it all to you if you want. I mean, we run a six-shift rotation, and each shift has an SSS and an ASSS. Some of the ASSS's are titled SSS's. There are really only three ASSS's. Basically, I'm the relief SRO, so, if somebody takes vacation or is sick, I fill in.

MR. JORDAN: So you can fill in for an SSS or an ASSS.

MR. ERON: I fill in for an SSS, but I do not fill in as an SSS. I guess the example can give you is, if a shift has an SSS and an ASSS on their shift and the SSS is sick or on vacation, I cannot fill in for the SSS, because then there would be two ASSS's. I mean, by law I could; I'm an SRO; I could do that.

MR. JORDAN: Right.

MR. ERON: But that's not my job title, and that's

not the precedent that has been set at Niagara Mohawk.

MR. JORDAN: Okay.

MR. ERON: But the majority of the shifts have two SSS's on their shift, and if one takes vacation then I can fill in, and then the other one becomes the SSS. That's how we do business.

MR. JORDAN: So you're always an ASSS on any shift.

MR. ERON: I'm always an ASSS on a shift.

MR. JORDAN: Okay. Good. I understand. Thank you.

MR. KAUFFMAN: I guess I would like you to -- One of the charters of our team is to try and create the event that happened on the 13th. In that regard, I guess we'd like you to tell us the plant conditions, activities, in general what was going on, prior to the loss of the UPS; and then, when it happened, what you saw and what you did.

MR. ERON: Where do you want me to start?

MR. KAUFFMAN: Just a general thing, like at 100 percent power.

MR. ERON: Well, I guess where I want to start is, I had covered for George Moyer on midnights from Saturday, the week before -- I don't know the exact date of what that is, but you could find that out. I worked Saturday midnight through Thursday morning. That was five days for

that week. Then, on -- [Pause]

So I started working for George Sunday the 4th. I worked from 10:30 till 6:30 the 4th through the 8th. Then I had Friday and Saturday off, and then I came in for Doug Richards, who is normally Mike Conway's counterpart. They're both SSS's, Doug and Mike. I started working with A shift on the 11th, so I was relatively familiar with the plant conditions, the equipment out of service, et cetera.

On that morning of the 13th -- You want me to give you a description of the event; is that it?

MR. KAUFFMAN: Yes, pretty much just what you saw, what you heard.

MR. ERON: Well, the first thing was the noise. It sounded like a large -- I'll call it a pop. I observed the loss of annunciators on 852, 851, 602, 603, and 601; those are the panel numbers -- except that there were six lights on 601. Two of them were annunciator power supply trouble alarms. At the time, I was reviewing the shift checks, which are the required surveillances for the shift, which is standard procedure, and was also working completing my turnover sheet for the oncoming shift, which would be there shortly. It was approximately quarter of the hour, 6 a.m.

I observed the loss of the annunciators, and I tired to evaluate the plant status: what was going on at the

time. Recirc pumps had down-shifted. Mike Conway, the SSS, on 601 was looking at level and pressure on the post-accident monitoring recorders. I recommended to Mike that we place the mode switch to shutdown.

At that time, I observed many other things. I don't know what you -- would you --

MR. KAUFFMAN: I'm more interested, I guess, in really what you saw, what you were thinking, why you did it.

MR. JORDAN: What you observed.

MR. KAUFFMAN: Yes.

MR. ERON: What did I observe? I cannot be 100 percent sure of the sequence of events, but I can tell you that, in the first two minutes, when we came to the front panel, I looked over at Mike, and we were very concerned. He was looking at level and pressure on the PAM recorders. The recirc pumps had down-shifted. I reviewed OP-101-D. We were above the 100 percent rad line; that required a scram. I verified APRMs in the back. I don't know if I went to the back first or recommended the mode switch to shutdown first, but I recommended to Mike placing the mode switch to shutdown.

At that same time, Mark Davis said, We are losing feed pumps, reactor water feed pumps. Then Mike directed Mark Davis to place the mode switch to shutdown.

I also observed that the white lights before pilot

solenoids, they were de-energized. I did go to the back panel and verified that the APRMs were down-scale on the meters and the indications of the -- I'll call them, for want of a better term, the big, dumb, and ugly lights, if you know what I'm talking about.

MR. JORDAN: But, for the record, tell him what they are.

MR. ERON: Oh. Big is bypass, Dumb is down-scale, and Ugly is up-scale.

MR. JORDAN: These are lights for what?

MR. ERON: The LPRM indications.

MR. HELKER: It's an acronym used to remember what those lights are, what they mean?

MR. ERON: Right.

MR. JORDAN: Okay.

And what did you see on those? Which ones of those were lit? Were they all lit, or which ones were lit?

MR. ERON: There were several lit. I verified the meters down-scale. On the second panel in from the left, I verified on that panel that the majority of the LPRMs were down-scale. At that time, I did a couple things, and, again, I can't remember the exact order.

I verified that we had DC power on the back of 851, and we did have all voltage on all our DC buses. I verified that house loads had transferred from the normal

station service to the reserve station service transformer.

I called the Unit One SSS and had him make the announcement that the plant is scrammed and that you need to announce that to get my people to come to the control room. Because I attempted to make the announcements on our Gaitronics system, and they had failed.

MR. JORDAN: Do you know if that was successful?

MR. ERON: I heard the announcement through the phone. In other words, I heard their CSO blow the alarm, and I could hear it through the phone.

MR. KAUFFMAN: You heard them make it, but you didn't hear it coming.

MR. ERON: That's right. It did not work in our plant. It worked at Unit One.

MR. KAUFFMAN: Okay.

MR. ERON: This is what I found out later. I don't know if you're interested in this, but it was beneficial. I believe the plant manager at Unit One was in at the time, and I know an assistant electrical maintenance supervisor was in at the time, and they began to staff the TSC and the OSC.

I came out of the SSS office, and I said to Mike Conway, Mike, I believe we're in alert. At that time he himself and Al Denny were reviewing EAP-2, figure 2, and Mike responded to me, No, Mike, we are in a site area

emergency for loss of annunciators and plant transient in progress.

Immediately I called Unit One again, to tell them they need to announce this, and they did. Then I directed Don Bosnic, who was the oncoming ASSS, to call rad waste to send the communicator to the control room.

MR. JORDAN: Is Don Bosnic your replacement?

MR. ERON: Yes.

MR. JORDAN: Was he there when this thing started?

MR. ERON: I read his -- This is the reactor analyst procedure number 6. It documents the plant scram. I read from him. He was coming into the plant; he heard a noise, came into the control room, expected to hear several annunciators, heard none, so he was there shortly before 6 o'clock. I don't think he was there for putting the mode switch to shutdown, but he was there for --

MR. JORDAN: Early in the program.

MR. ERON: Early.

Again, I'd like to stress that all these events that I have discussed up to this time happened within the first five to ten minutes of the event. Their sequence may not be proper.

Also during this time, or shortly after that, I verified that we did have a reactor scram by checking the trip lights on panel 609 and 611. I also verified that the

scram dump volume was full by the Rosemont transmitter indicators in the back.

MR. JORDAN: And we don't know if you did that before.

MR. ERON: That was after I called the Unit One.

MR. JORDAN: So they've already done the manual scram.

MR. ERON: Yes.

MR. JORDAN: Okay.

MR. ERON: I mean, I can read to you --

MR. JORDAN: No, that's fine. I was just curious, Mike, if you had an idea where in the scheme of things that those were checked. That's fine.

MR. ERON: That was definitely after the manual scram.

MR. JORDAN: Okay.

MR. ERON: One thing that I was working on that I was, I guess, very concerned with -- Well, during this time I had an operator -- I can't remember specifically if I did it or I went through Mike Conway, but I know an operator went out and checked UPS's, because I had confidence, because of the loss of the full core display, the loss of the Gaitronics, the reports that lighting had failed, that we had a problem with UPS's. This has been known in past scrams: that UPS I believe 1-Delta and 1-Charlie had had

problems. Also, there was an event where maintenance was working on -- I believe it was UPS 1-Alpha and we had a problem with the full core display at that time. So UPS's were suspect, in my mind.

Operators were dispatched to check UPS's, and they came back with reports that the 1-series UPS's all had all their breakers open. Mike Conway directed them to restore them, and he sent Dave Hanczyk -- and I have written down that Mike Garbus, who was a relief operator -- they both went out there to restore the UPS's.

During this time, without the UPS's, we had no rod indication; we lost our drywell cooling; and we were concentrating on controlling pressure and level.

During this time, also, I was assisting Mike Conway in executing EOPs. Again, with the loss of drywell cooling, I was very concerned with the containment. I took time to review prints to figure out why we could not restart drywell cooling. Temperatures were increasing, and I guess in my opinion that was a very, very big concern, because a trip on a high drywell pressure would have complicated matters significantly.

Within that short period of time, I did understand why we weren't getting the override to work properly and continued to monitor the containment parameters to recommend actions to Mike Conway, if necessary. That was not

required; that never was required.

Also, one thing that I worked with Mark Davis on through Mike Conway was maintaining the balance of plant. We had Jim Stevens, an operator, sent down to the auxiliary boilers to get them started so that we would have a source of ceiling steam through our clean steam reboilers to maintain our vacuum.

We also had several mark-ups on our residual heat removal Bravo and Charlie systems for normal maintenance that we had just approved and hung those mark-ups. Our mark-ups --

MR. KAUFFMAN: It's like a tag-out.

MR. ERON: Right. It's our protection system for our accident prevention rules.

Those mark-ups were restored. Also, we received a full vacuum alarm. We didn't know what our vacuum indications were, so we dispatched operators locally to verify our vacuum, and we eventually made arrangements, after the UPS's were restored, to keep the vacuum with the air removal system. They're called the hoggers.

MR. KAUFFMAN: Right.

MR. ERON: Also, as another contingency, we cleared our hold-outs for the steam condensing system. Their valves are de-energized for Appendix R considerations.

MR. JORDAN: Steam condensing?

MR. ERON: Steam condensing is a mode of RHR, residual heat removal, which utilizes the heat exchanger to condense steam drawn off through the RCIC, reactor core isolation cooling system, and then sends that to the suppression pool.

MR. JORDAN: Which system were you planning on using?

MR. ERON: The Alpha system.

MR. JORDAN: A, the Alpha RHR?

MR. ERON: Right.

As far as level control, I wasn't involved in this; I found this out afterwards, about the level control, that they were using RCIC. Mike directed that immediately when the feed pumps were lost. At that time, I was in the office working on some of the administrative things that we had to take care of. But they initiated RCIC to control level because the feed pumps had gone away, and they also placed RHR-A in suppression pool cooling, since they had RCIC steam exhausting to the suppression pool.

Eventually, they restored the annunciators. When we were able to maintain our condenser, we took the plant to a normal shutdown.

MR. KAUFFMAN: What time did your normal relief come and relieve you so you could go home?

MR. ERON: We were relieved at approximately 11

o'clock the next morning.

I guess one thing that I didn't mention, probably, was another thing that I helped work on: Our procedures tell us that we need to verify rod position, and in certain procedures we're only allowed to exit them -- these are emergency operating procedures -- when certain conditions, and one of those conditions is, all rods are at zero-two or full in, so I would work with Dave Rathbun, with Mike Conway, on executing those procedures during this time, during the loss of annunciator time.

MR. KAUFFMAN: We're going to go back with a couple follow-up questions. One, I guess, is, I've only been here on site a day now. My understanding is that you were the assistant shift supervisor, and then, when an event happens, you full the SGA position. The SGA position is used differently and defined differently, and people have different responsibilities all over the country, so just in general, if you could outline for me what the SGA job responsibilities are during an event.

MR. ERON: Well, there a written procedure, I believe, on an ODI that outlines it detail for detail. I guess I'll tell you what we're trained to do.

MR. KAUFFMAN: Sure. We're looking for generalities.

MR. ERON: In dynamic scenarios, we monitor the

plant status using significant use of the SPDS -- safety parameter display system -- that is on our emergency response facility computer. That was out of service at that time. So utilizing the analog information available on panel 601 and 870 and 871, I kept the SSS informed.

Like I said, I concentrated mostly -- I felt my job in that situation was contingencies, because Mike had plenty of operators on pressure control and level control, and we didn't have any problems with our containments, but we had the potential for problems on our containment. And also balance of plant -- again, the suppression pool is part of the containment; we wanted to maintain our condenser and use that as our heat sink. I guess containment and BOP, I felt, were the big-picture items that I needed to maintain.

Also, I made sure that the emergency functions that the SEPC was responsible for carrying out got implemented -- i.e., accountability, people coming in.

I guess I take that back. First of all I was concerned with getting the communicator in the control room, getting the fact sheet filled out, getting the state and county warning points notified, getting the NRC notified. I made sure that happened.

And then things like accountability -- I made sure that we were kind of addressing that in the control room, and coordinating a little bit with the TSC, helping Marty

get a turnover; that's another thing I worked on.

Like it says in our procedures, I interrupted the SSS -- he was conducting other things -- when certain parameters, I felt, were getting in a position that he needed to address them. I interrupted his conversations and said, Mike, you need to look at this; this is important; we need to do something. So I kind of was a second pair of eyes and ears for the SSS.

Also, fending off superfluous --

MR. KAUFFMAN: Were you crowd control?

MR. ERON: No, I was not crowd control, but we did have to clear the control room, I think, three times. But information was being passed to Mike. For example, a new release was for review. I reviewed it and tried to tell those people, Look, you don't need to be sending that stuff up here; that's not what Mike needs to do now. I tried to handle any phone calls for him and any information people needed on the status and things like that.

MR. HELKER: I think your original question was what his responsibilities were as SGA; is that correct?

MR. KAUFFMAN: Yes.

MR. ERON: I think your best answer to that question -- that's what I felt during that event. There is a written procedure in the ODIs that can tell you exactly what they are.

MR. KAUFFMAN: We have a general question. When you look back on this event and everything that happened, it was a big challenge, and there were lots of equipment problems, lots of things to do. One of the things we're trying to capture is anything that helped you in dealing with this difficult and complex situation that might not be normal or that other people could learn from. We'd like you to tell us about it. Conversely, if you could have had anything to help you that you didn't have, if you have any ideas for what could have helped.

MR. ERON: I guess I don't -- Could you maybe break that down into -- I guess I really don't know what you mean.

I mean, I can tell you a lot of things that I don't have.

MR. KAUFFMAN: Well, if you have simulator training and you found that that was real helpful in diagnosing this and figuring out what was going on. Or the EOPs just led you through it, crystal-clear.

MR. ERON: I guess the thing I'd like to say is that our procedures and our training are symptomatic-based. I didn't need to know that transformer B blew up -- or I won't say "blew up"; I'd like to change that --

MR. KAUFFMAN: Sure.

MR. ERON: Transformer B failed and caused the

failure of the 1-series UPS's. I didn't need to know that on my training. My trainers taught me that, here are your entry conditions; these are the parameters we're concerned about. Do you know them? What do you know? What don't you know? Based on what you do know, these are your procedures that you follow.

I think there was maybe a minute or two where we were kind of in disbelief, but, once we overcame that human reaction, Mike entered the EOPs, I assisted him in doing the EOPs and carried out the emergency plan, and we looked for contingencies. That's one thing that was forefront in my mind, because that's something we had just covered last cycle in training.

MR. JORDAN: Did you feel comfortable with the EOPs? Did you feel they were a very good benefit to you, or did you feel there are better ways of handling this?

MR. ERON: I don't know. I only know our EOPs; I only know what I have been taught here. I don't have any other experience.

MR. JORDAN: No, I'm just curious. Do you feel comfortable with the fact that the EOPs got you through this program, or this event?

MR. ERON: Yes. I feel very comfortable -- Well, I won't say I feel very comfortable, because I -- I'm trying to use them; I know how to use them. Mike was our

leader and did a great job, and I assisted him. When he had questions, I helped resolve them with him. Things that he missed that I didn't, we'd work together. We took our time; we read the procedures; we made our decisions; and we executed them as we were trained to.

I guess in answer to your question, our training was -- helped us very much to bail the casualty. Now if you want to repeat the question again.

MR. KAUFFMAN: I was just -- I guess the specific is if you had good things to say about anything? For example, maybe -- not trying to put words in your mouth, I'm trying to give you an example -- is there's lots of training, maybe it was UPS scenarios helped you. Maybe it was command and control and formal communications that allowed everybody to understand and to know what was going on. Maybe it's the way you debrief and communicate, you know --

MR. JORDAN: If you've the event like this before in training where -- what things that you felt you relied on that were really comfortable because of something that was provided to you? I think that is a -- just in generalities.

MR. ERON: Like I said before with the AIT, everything as far a training goes, you know, down from lessons learned and SOERs and even just events that the operators discussed among themselves, you know, all those

kind of things helped, you know, so training was definitely a plus.

I don't really know what else to say.

MR. KAUFFMAN: That's fine. We know there were problems in this event with lighting and communications and you worked around some of this by calling Unit One control room. Did you get information from people that went out in the plant or came back making reports about how much lighting was gone or did you run into problems trying to tell people what to do or getting information back from them due the phones being out or anything.

MR. ERON: The phones were not out.

MR. KAUFFMAN: Oh, I'm --

MR. ERON: The electronics were out.

My first reaction when the Gaitronics were out was operators take radios. Operators informed me that we had Leaky Wire system that allows us to use radios in the plant.

MR. JORDAN: What is Leaky Wire?

MR. ERON: It's a system in the plant that allows the uses of radios. Basically it's an antenna throughout the plant.

MR. JORDAN: But Leaky Wire is the system.

MR. ERON: Right.

MR. KAUFFMAN: We heard this last interview. We didn't ask about it.

MR. JORDAN: I just want to make sure that when it goes --

MR. ERON: Leaky Wire is a radio frequency system that allows operations of hand-held radios throughout the plant and that system was down and Gaitronics were down.

Now lighting has been a problem before in the past. April, 1987 we took a scram. The lighting was out. I was in the normal switch gear at the time and had a difficult time finding my way out of the plant so again when I heard that these guys were having problems with lighting I knew -- or it ran the bowel inside me that, hey, this is a UPS, 1D, 1C problem, okay?

Loss of Gaitronics also rang a bell in my head that this was a UPS-1 -- I think it is 1-C or D, also that comes off Gaitronics.

MR. KAUFFMAN: You knew this from experience?

MR. ERON: From experience. My experience -- I mean my experience on electrical, in experience, right? We also had a report that the UPS-2A series, which is your emergency UPS, is Division 1 and Division 2, right? You're familiar with those?

MR. JORDAN: No, but that's okay.

MR. ERON: Are separated buses required by the Reg Guide -- I guess 1.97 or 1.75.

MR. KAUFFMAN: 197.

MR. ERON: 197, right, those series of UPS's. We got reports that they were in service and I know just because I know that all our 601 instrumentation, the instrumentation that we are relying on, are fed from those UPS's so I had a good deal of confidence that our pressure and level indications were correct.

Mike Conway also dispatched a non-licensed operator to Reactor Building 261 to get local reads. That was also beneficial in backing up our information.

MR. HELKER: That was local readings on reactor water level and pressure, instruments that are independent of power.

MR. JORDAN: Thank you.

MR. ERON: So I guess another thing that was beneficial for me was my electrical background and being able to support the team and again bailing the casualty.

MR. KAUFFMAN: Just a general question. Obviously, while this is all going on I think most people are probably real busy and log-keeping probably wasn't a real high priority so I have been asking people how they kept or tracked information, how they did their logs, how they got the information.

MR. ERON: I guess -- this is the way I see it. Initially we didn't keep a log of exactly what happened and what we did was Don Bosnic, like I said, he came in shortly

after, he kept a record of events that he was working on and then eventually we -- Jerry kept a record at some events as far as specific times, what happened.

I know on EOP, some of the EOP stuff I think like for example when the attachment for reactor water level with re-isolations was completed, EOP-6, Attachment 1, I logged the time on the EOPs that that was completed.

I know eventually when things started kind of we got a little more control of the situation, we assigned an operator to take a log.

I guess in training that's not something that we do and I think it's a reason because of manpower, right?

Initially there was myself, Mike Conway and Mark Davis in the control room and then you know other people came in.

MR. HELKER: The way the SS level is reconstructed was there's a few of us who were taking notes -- like here is an example of my notes that I took that morning. At 0627 I entered the control room and here is what I saw and just kept writing -- and what Don did is he took my notes and other people's notes where they kept track of what time and compiled them into what he put in his log. Actually Mike Garbus was out there keeping track and running with everything going on.

Does that answer your question?

MR. KAUFFMAN: Yes. The reason I originally asked it is when I looked at Mike Conway's log, you know, it was kind of -- it was a lot more legible after the event than before.

MR. HELKER: That was written by Don Bosnic some time later in the middle of the morning, taking all of the information that several of us had written down.

MR. ERON: Before the log was put into the SSS log, right, that was hand written, it was reviewed by myself. I reviewed that so -- and Mike signed it, right, so he reviewed it also.

MR. KAUFFMAN: We're not questioning what it says or it's just --

MR. HELKER: So we're able to reconstruct this -- we want to be able to do it.

MR. KAUFFMAN: We're not looking at emergency planning but event reconstruction.

MR. HELKER: That's how we get --

MR. KAUFFMAN: -- is an important function especially in this case where at least for a little while all the alarms and SPDs and alarm printers went out and so it's not -- I would imagine emergency planning people are going to be looking in their inspection, they are going to be looking at that closely but to us it's just we're curious as to how it was handled.

I guess I am also curious how getting information to the TSC was handled on plant parameters and they're I think being a new plant are normally used to getting SPDS and this information right off of computer screens and I don't know if you have anything to -- if you know how that was handled or not, but if you do I guess that's the question.

MR. ERON: I guess as far as emergency response by the emergency plan -- or the TSC staff and the OSC and security, I know I was questioned more than once by people down there at what time did you declare an alert.

We never declared an alert, right? I think, Mike, you must know from training examiner standpoint, you know you give a group a scenario, generally the event that we see in training and as with this event you are there at these higher level classifications immediately and I know in emergency planning it's usually a usual event and they use their procedures and for lack of better words they flip pages, and then you go to an alert, and so people would questioning me, when did you go to an alert? I was trying to explain to them that, you know, this is it.

MR. JORDAN: You never went to alert.

MR. ERON: Right, so I think that caused some problems with our security people and the turnover phase onto the TSC.

MR. JORDAN: About transmitting information --

MR. ERON: I suspect we had the power restored in half an hour and the TSC turnover wasn't till I think 7:00.

MR. HELKER: 7:28.

MR. ERON: 7:28, so that is more than an hour after we restored power, they had their displays down there.

MR. KAUFFMAN: Right.

MR. ERON: Before it was manned, right? So --

MR. HELKER: There were people in TSC was at 7:02 when I talked to Ray Dean down there to give him an update what was going on.

MR. KAUFFMAN: We like to do what-if's, right -- do you think it would have been easier to get them information -- in this I guess case you had all kinds of extra people there but if it would have been on night shift or the middle of night shift and you didn't have extra people, would getting them information have been a problem?

MR. ERON: I cannot answer that question. The only thing I can say to that, and this is a what-if, right?

MR. KAUFFMAN: Sure, that's all we want.

MR. ERON: I would suspect that I would have advised the SSS who was the site emergency director not to turn over to the TSC until they have established some method to communicate this information to that person, right,

besides the computer.

That is just my own personal opinion, right, I mean --

MR. KAUFFMAN: I haven't looked at your E-Plan and I guess what I know is typical of a lot of plants is they have a data taker in the control room and a data taker -- this is what you did in the old days before all these computers, right? The data taker, the data marker and data taker.

MR. ERON: TSC still gets updates over the phone every 15 minutes to update their status boards irrespective of any computers.

MR. KAUFFMAN: So that mechanism is there is what you are telling me.

MR. ERON: Yes.

MR. KAUFFMAN: Okay.

MR. ERON: I gave several updates throughout the event.

MR. KAUFFMAN: Even after the computers came back on line.

Turn it over to you.

MR. JORDAN: The recommendation you gave the SSS to manually scram, you were in the role of the STA at that time, is that correct?

MR. ERON: No.

MR. JORDAN: What role were you in? I guess what I am trying to find out is --

MR. ERON: I guess that's, the way I spoke was a tribute to our training, right? He's the SSS. He has the shift. He is responsible. I am an SRO. You know, I see indications requiring a scram, you know, if he wasn't available, right, I am responsible to take those actions. I mean he's standing ten feet away from me, he ultimately has the responsibility so I thought it was worthy and that's how we're trained, you know -- I am an ASSS. I make the recommendation to the SSS the place the mode switch in shutdown. He concurred. The RO concurred, obviously, because he performed the action so that's just how we're trained.

MR. HELKER: That's the way administrative procedures are. Only the SRO in charge of the control room has the authority to shut down the reactor --

MR. JORDAN: Okay, but if -- I guess the question I have is that if you felt, did you feel the constraint that that's how the procedures are, that you had to get the permission to authorize it first or are you authorized to go ahead and if there was another condition that --

MR. ERON: You mean if he was in the bathroom or something?

MR. JORDAN: No, if there was another condition

separate from this transient that would allow you -- is there some that restrains you from performing a manual scram or do you have to get authorization before you perform the manual scram?

MR. ERON: I guess it depends on -- I guess it would depend on the situation. I can tell you that if Mike, well, if the SSS is within -- you know, if I can communicate to him, Mike, I recommend placing the mode in shutdown, that's how we are trained to do it.

If we was out in the bathroom, or not in the control room in that situation or in a scram signal is received, I am in charge. I am going to tell the CSO or the reactor operator to place the mode switch in shutdown.

MR. HELKER: All that is consistent with the way our administrative program is.

MR. KAUFFMAN: I'll ask does it address the situation if he says no and you think, you know, you really have a trip signal and the procedures require it, does it address how that is resolved?

MR. HELKER: Administrative procedures? Do they address that?

MR. KAUFFMAN: Under conduct of offices, is that addressed? Is that resolved? Do I say it's my licensed duty and I am going to do this and I'll take the consequences or do I have to say if I can't live with this I

have to quit? I mean, I guess, you know, what is the resolution if there is a disagreement?

I guess I should be addressing it to the interviewee.

MR. ERON: The situation, this situation was very clear that a scram was required.

MR. KAUFFMAN: Right.

MR. ERON: And I can really not think -- I mean -- of a situation that it would be -- I'll tell you right now, this was a situation where that was the biggest -- and we had indications of possibly still being at full power based on the APRM chart reporters.

We had other indications that said our plant was shutting down. You know, this was a situation for your exact question and there was no disagreement in the control room. A scram was required. Conditions were unknown or we were not sure of our conditions enough to place the mode switch in shutdown.

I mean if you got two red lights up there on A and B channel or if you have got water level indication by two independent means that you are below scram set point and you don't have it, that's how we're trained. You put the mode switch in shutdown, so that hypothetical question I cannot think of a scenario. This is probably one of the best scenarios that would bring that up and our actions, as you

can see, were in agreement. I mean three reactor operators were in 100 percent agreement that this is the correct thing to do so I don't see based on our training a plausible, realistic situation that would cause for such disagreement that could not be resolved in a matter of seconds.

MR. KAUFFMAN: I am not questioning whether what was done was right or wrong.

MR. ERON: I understand.

MR. KAUFFMAN: I am trying to -- you I guess aren't at the controls maybe, you know, that it wouldn't be normal to expect you to go and operate the switches. I guess my question is more really directed at the reactor operator.

If this is a problem, does he take the switch and the buttons or does he recommend?

MR. HELKER: Reactor operators are also administratively required to shut down the reactor if the director feels is appropriate.

MR. KAUFFMAN: With or without concurrence?

MR. HELKER: Without the concurrence of the SSS.

MR. KAUFFMAN: I can barely hear you.

MR. KAUFFMAN: I'm trying to what the recommendation --

MR. HELKER: Right. The SRO in the control room, the nuclear operator EE in the control room and the RO have

the authority to shut down the reactor operator independently of authority from anybody else.

MR. KAUFFMAN: I didn't hear that.

MR. HELKER: The SRO in charge of the control room, in this case it was the SSS, the CSO or the nuclear operator EE have the authority to shut down the reactor whenever they feel it is appropriate. That is written in our administrative procedures. The CSO doesn't have to stop and go get the SSS's permission to take the mode switch to shutdown if he sees we exceed an RPS set point. He is required to do it himself.

Did I answer your question?

MR. KAUFFMAN: Yes, you did.

MR. JORDAN: You answered mine. I understand, Jerry, at least your position on what you --

MR. HELKER: Mike doesn't have to call me at home either, all right?

MR. JORDAN: I understand.

I have got just two other questions that I know of anyway.

You mentioned that after you had the discussion on the scram and you checked the APRMs on the back panel, and the lights on the back panel, that the majority of the APRM were downscale, a majority of the lights were downscale.

Was there some that weren't downscale? Were there

some that were upscale?

MR. ERON: I saw no upscales.

MR. JORDAN: No upscales. Okay, did you see any that were downscale?

MR. ERON: Bypassed? I did not. I did not. There obviously are some LPMs back there bypass because that is documented in our equipment status log but the ones I looked at were all downscale.

MR. JORDAN: Downscale. You did not see any that were not downscale?

MR. ERON: That is a true statement.

MR. JORDAN: That were not already bypassed.

MR. ERON: That is true.

MR. JORDAN: You mentioned also that you were monitoring the drywell containment parameters?

MR. ERON: Correct.

MR. JORDAN: And the temperature was going up and that was a concern to you? Can you give me an idea of how hot it gets, to what levels they were going to -- how hot was it in the drywell?

MR. ERON: My last reports before the restart -- and the UNICORs, well, the power was restored and the UNICORs restarted, the highest temperature was 165 and the lowest temperature was 120.

MR. JORDAN: Okay. At what point is the drywell

temperature --

MR. ERON: 150 degrees is the EOP entry condition and that is based on average temperature.

MR. KAUFFMAN: That's EOP. Okay. That's above temperature and so you would have to I guess do a calculation to get that.

MR. ERON: Right.

MR. HELKER: All the EOP parameters are based on average, average values, with the exception -- unless it specifically says in one case we use highest drywell temperature.

MR. JORDAN: How about what are the drywell containment parameters you were monitoring and whether there was any other problems with any of the other ones?

MR. ERON: Pressure.

MR. JORDAN: Is pressure one? Okay.

MR. ERON: Right and --

MR. JORDAN: Was that a problem?

MR. ERON: No. It was never a problem. The meters are banded, right, and I don't know what the exact numbers are but the meters are banded, right?

White is good, yellow is not so good and red is bad, right? So we approached the yellow. We never crossed into the yellow zone. I don't know. I don't want to say it's .8 pounds. That's the alarm -- .7 or .8 is the alarm

set point and 1.68 is the scram or trip, isolation.

MR. JORDAN: So you were always in the white, so whatever the high band of the white was is the highest that it could possibly could have gotten to?

MR. ERON: For pressure, that's correct.

MR. HELKER: You can take that right off -- you can get the information right off the recorders.

MR. JORDAN: That's fine. What about the -- any other parameters that were monitored, Mike?

MR. ERON: Well, condenser vacuum but it was pretty tough to monitor.

MR. JORDAN: Containment, I'm sorry.

MR. ERON: The level in the suppression pool.

MR. JORDAN: And that was no problem?

MR. ERON: That was not a problem. Hydrogen and oxygen.

MR. JORDAN: Any problems there?

MR. ERON: Well, there was a problem with one of the sample pumps. I found this out later. What I knew during the event is that each hydrogen and oxygen concentration I believe it is the Division 2 H20 to analyzer spiked. I don't know what the exact value of the spike was, okay?

That was a concern and we requested chemistry to make a sample, okay, and subsequently I found out that one

of the sample pumps had tripped and that that had been restored and that hydrogen and oxygen levels trended down and the sample was never taken.

Then of course suppression pool temperature monitored that.

None of those other parameters was a problem.

MR. JORDAN: The only one that had any sort of a problem was drywell temperature?

MR. ERON: That's correct.

MR. JORDAN: Okay, thank you.

MR. KAUFFMAN: Is that it?

MR. JORDAN: That's all I have. I don't have anything else.

MR. KAUFFMAN: I have -- it's not really a question. I would just like to give you the opportunity if there is anything you would like to say or comment about or do you want to say that anybody did well for the record, or just it's your opportunity.

MR. ERON: Well, I guess if this is my opportunity I would like to say that I thought that Mike Conway was outstanding in his performance as our SSS and our team leader and that the reactor operators, Mark Davis, Steve Hanczyk, Mark Bodoh, performed outstandingly as reactor operators so I guess, you know --

MR. JORDAN: You felt comfortable with this shift?

MR. ERON: Yes, and, well, you guys understand, this is not my regular shift.

MR. JORDAN: I understand that. You step into a shift and you fill in for a person and you're saying that you are thankful that that was a good shift that you worked with and that's good.

MR. HELKER: Just have to say that.

MR. JORDAN: That they're any better than anybody else, I understand that. They're all good.

MR. ERON: And all the other people that as they came in the control room for their normal job that they were able to support us, you know, all the relief operators that were on days and all the people for the shift on days that was coming in to take the shift, you know, were able to just either they stayed out of the way or they made themselves very useful to us.

I guess, you know, people -- I guess the other people are the non-licensed operators that supported us in the plant with the lights out and did an excellent job.

MR. KAUFFMAN: Good.

MR. JORDAN: That's all I have.

[Whereupon, at 3:38 p.m., the taking of the investigative interview was concluded.]

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 MIKE ERON

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

JON HUNDLEY
Official Reporter
Ann Riley & Associates, Ltd.