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OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant
Interview of: PAT WALSH

Docket No.

LOCATION: Scriba, New York

DATE: Thursday, August 22, 1991

PAGES: 1 - 44

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION
3 INCIDENT INVESTIGATION TEAM
4
5 -
6 Interview of :
7 PAT WALSH :
8 (Closed) :
9 -
10
11 Conference Room B
12 Administration Building
13 Nine Mile Point Nuclear
14 Power Plant, Unit Two
15 Lake Road
16 Scriba, New York 13093
17 Thursday, August 22, 1991
18
19 The interview commenced, pursuant to notice,
20 at 11:00 a.m.
21
22 PRESENT FOR THE IIT:
23 Michael Jordan, NRC
24 Rich Conte, NRC
25

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

2 [11:00 a.m.]

3 MR. JORDAN: This is August the 22nd, 1991. It is
4 11:00 in the morning. We are at the Nine Mile Point Unit
5 Two in the P Building.

6 We are conducting interviews concerning a
7 transient that occurred on August the 13th, 1991.

8 My name is Michael Jordan and I am with the U.S.
9 NRC out of Region III.

10 MR. CONTE: I am Rich Conte, Region I.

11 MR. WALSH: My name is Pat Walsh. I work for
12 Niagara Mohawk Power Corporation as a Senior Operations
13 Instructor.

14 MR. JORDAN: Okay, Pat. Why don't you give us
15 your background, Pat, what is your background?

16 MR. WALSH: My background? I've been working for
17 Niagara Mohawk for about two years now in the licensed
18 operator requal program. Prior to that I worked for about
19 six months at Unit One developing exam material. Prior to
20 that I was a Navy-Nuc. I spent about eight and a half years
21 in the Navy, two and a half as an instructor at one of the
22 prototype units and about three and a half years on board
23 the USS Daniel Webster as a Reactor Controls Division
24 Leading Petty Officer and also responsible for, for about
25 two years I was responsible for the engineering department

training program.

MR. JORDAN: Rich, you want to walk through the event? Run through the questions?

MR. CONTE: Yes. Let me ask on your background here, you are right now an instructor in requal. You said that you spent a year in development of lesson plans for the requal or the initial program?

MR. WALSH: Oh, my experience at Niagara Mohawk is I came in here about two and a half years ago working for General Physics Corporation.

Initially I worked at Unit One developing exam material and lesson plans for about six months. Then I went to a cert class. I am a certified Senior Reactor Operator on Nine Mile Point Unit Two. When I graduated from that course I initially worked in Unit Two requal training doing classroom training and for about the last year I have been doing simulator training.

MR. CONTE: Okay. So most of your knowledge right now is based on licensed operator requal?

MR. WALSH: That's correct.

MR. CONTE: What does the job task analysis for the uninterruptable power supply indicate? Are you familiar with that? What kind of objectives, enabling objective and learning objectives, does it specify for the uninterruptable power supplies?

1 MR. WALSH: For the uninterruptable power supplies
2 I have never taught that material. We had a lesson plan
3 developed on uninterruptable power supplies that was based
4 on the INPO SOER and that's about as far as I know with
5 that. I have never taught that material.
6 MR. CONTE: When was that INPO SOER come out --
7 when did it?
8 MR. WALSH: I think it is one of the older ones
9 from the mid-'80s. I can get that information if you'd like
10 it. It is an SOER --
11 MR. CONTE: Is it referenced in the lesson plan?
12 MR. WALSH: Yes. I believe so.
13 MR. CONTE: We are asking for the lesson plans, so
14 you don't have to get that for us.
15 MR. WALSH: I could bring that over you this
16 afternoon if you would like it.
17 MR. CONTE: If we need it, I'll ask you.
18 Okay, I guess the same thing on control room
19 panels and annunciators. You are not that familiar with job
20 task analysis but --
21 MR. WALSH: Besides what we teach in the
22 simulator, since I do mostly simulator instruction and I
23 write a lot of the material for the simulator, a lot of the
24 scenarios for both the exam bank scenarios and the training
25 scenarios that we use, most of the tasks that are driven off

1 a lot of the EOP type tasks -- use of the emergency
2 operating procedures, being able to implement them, and the
3 subtasks associated with that for the reactor operators.
4 MR. CONTE: Do you train the initial people, most
5 of them, in the simulator?
6 MR. WALSH: No, I don't work in initial training.
7 MR. CONTE: So this is just requal.
8 MR. WALSH: Yes, sir.
9 MR. CONTE: Can you give us an idea of in light of
10 the event -- oh, I know, we needed to ask did you have --
11 before we ask that question, did you have any participation
12 in this event the day of the event?
13 MR. WALSH: No, I did not.
14 MR. CONTE: Were you on shift as a support?
15 MR. WALSH: No. The only participation I had that
16 day was doing a little bit of research for the ELF over at
17 the training center.
18 MR. CONTE: Why don't you run down what you have
19 covered I guess, say in the last two years, dealing with
20 anything on the uninterruptable power supply or loss of
21 annunciators, complete loss, partial loss, and loss of
22 instrumentation in the control room.
23 MR. WALSH: A lot of what we have been doing in
24 the requal program, especially on the last two to three
25 cycles, have been working with electrical plant

Exhibit 3-1 (continued)

ADDENDUM TO INTERVIEW OF Patrick Walsh / Sr. Operations Instructor.
(Name/Position)

Page	Line	Correction and Reason for Correction
6	17	"follow an indicator" should be "fail indicators"
8	12	"i" should be "in"
8	21	"or" should be "so"
9	13	"it into" should be "Let"
37	2	"AUX" should be "Look"

Page 1 of 1 Signature [signature] Date 8/23/91

1 malfunctions, whether it has been a loss of DC, a loss of a
2 switchgear, loss of offsite power.
3 We have been working a lot with the electrical
4 distribution system.
5 MR. CONTE: Why is that?
6 MR. WALSH: We recognize it as an area that we
7 weren't doing a lot of work on and so we thought based on
8 operations management feedback we decided to concentrate on
9 that area along with EOP usage and implementation.
10 MR. CONTE: Okay, continue.
11 Anything related -- do you remember anything
12 recently on the loss of annunciators, partial loss of
13 annunciators, loss of instrumentation?
14 MR. WALSH: Loss of instrumentation we don't do
15 complete and we don't do anything as drastic as what
16 happened last week as far as that much annunciation loss but
17 we do routinely follow an indicator so the operator has to
18 use a backup indicator, inadvertent initiation of equipment
19 so they have to check the alternate indication to make sure
20 that the plant is in a safe condition.
21 For example, like you know, inadvertent initiation
22 of a division of ECCS and they have to verify the reactor
23 pressure or excuse me their drywell pressure, the reactor
24 level are satisfactory using redundant instrumentation in
25 that the ECCS initiation was inadvertent.

1 MR. JORDAN: How about annunciator loss,
2 instrumentation loss. How about annunciator losses?
3 MR. WALSH: Annunciator losses? No, we haven't
4 specifically written anything that I can remember.
5 We have just gotten new malfunctions into the
6 simulator that allow us to take out annunciator boards and
7 they are just starting to give us a little bit better
8 simulation on UPS's and taking those away.
9 If that stuff that we had requested be put into
10 the simulator a while ago at the exact dates we requested I
11 don't know but its recent malfunctions that we've gotten and
12 would like for the annunciators specifically and we have
13 been testing them out, but as far as having them formally
14 written into a lesson plan, they have just been released for
15 training in the loss of annunciators.
16 That allows us to just -- I can take out like one
17 annunciator panel at a time if I want to use remote
18 functions.
19 MR. CONTE: What are the symptoms of the loss of
20 an annunciator panel? Can the operators detect that?
21 MR. WALSH: They'll lose all the indication on the
22 panel and if I remember correctly on how that malfunction
23 works they'll get an alarm but they won't get any lights on
24 that panel. They will get the siren.
25 MR. CONTE: I see.

1 MR. JORDAN: He gets the audible alarm --
2 MR. WALSH: Yes.
3 MR. JORDAN: But not the flashing lights.
4 MR. WALSH: Yes.
5 MR. CONTE: You may get involved with this. We
6 have just talked to Bob Smith and he is going to want us --
7 we asked for a demonstration of the types of things you have
8 run as we're talking. I think he is trying to set that up
9 for tomorrow some time.
10 MR. WALSH: Okay.
11 MR. CONTE: You may well get involved with that.
12 MR. WALSH: Probably. We do a variety of things i
13 our requal program. We try to concentrate on both normal
14 operations and emergency operating procedures.
15 We implemented Rev. 4 of the EOPs about ten months
16 ago so we have been spending a lot of time working in the
17 contingencies, working in the normal legs, also along with
18 working electrical distribution, a variety of different
19 faults.
20 We try to have, most scenarios try to have some
21 type of instrumentation problem or they have to check a
22 backup instrument. We have a variety of scenarios that will
23 do that.
24 MR. CONTE: Is it fair to say that your training
25 scenarios are primarily limited to what you just said --

1 annunciator panels at a time, isolated instrument failures,
2 up and down? Is there anything else in any of your
3 training scenario banks that helps prepare the operators in
4 a piecemeal fashion for what happened?
5 MR. WALSH: Well, I think a lot of what may have
6 helped them during this event is the fact like as you said a
7 piecemeal type of thing.
8 We have never -- I have never written a scenario
9 that you know failed all the UPS's. I have written
10 scenarios that failed different indicators and they have to
11 use backup indicators or lose power to a certain indicator
12 by taking like a DC bus away, normal switchgear away and not
13 let it into divisional diesel start so they don't have that
14 indication and they have to use redundant instrumentation.
15 MR. CONTE: You mentioned the development of these
16 scenarios. How receptive is your management to new ideas?
17 MR. WALSH: Very receptive. A lot of things we
18 have been doing in our simulator program recently is we have
19 been taking data from the NPRDS, National -- oh, I forget
20 the name of it. It's one of the INPO data bases for like
21 equipment failures and stuff, and that has been real
22 helpful in telling the operators, so we can say, yes, this
23 really did happen to somebody else and we try to take
24 information from SOERs, from some of your NRC information
25 notices, things like that when I build scenarios.

1 For some of the EOP scenarios I mean you're pretty
2 much limited. If you want to get them to a certain leg in
3 the EOPs, you have to fail a lot of equipment,
4 instrumentation, whatever, to drive them into some of the
5 legs that you want to get to if you have really gone down
6 deep into the EOPs.
7 MR. CONTE: Were you --
8 MR. JORDAN: No, I was just saying -- we're real
9 familiar with the fact that it takes -- it takes a lot to
10 drive in the EOP's and to the --
11 MR. WALSH: Into the contingencies.
12 MR. JORDAN: Yeah. And it's something that's
13 difficult to do and it's way beyond what is the normal
14 expected response and it's almost like this. You know, when
15 you say well, that can't happen because in order to get here
16 -- that far in to the EOP's, you've had a lot of failures.
17 As we find out from this event, everything is possible.
18 MR. WALSH: Oh, for example --
19 MR. JORDAN: Everything is possible.
20 MR. WALSH: Last cycle I was teaching steam
21 cooling in the simulator and I did that by giving them a
22 loss of all -- loss of all AC power and then what I backed
23 it up with, you know, I showed them some examples of plants
24 that had failures of diesels to start -- you know, failure
25 of diesels and I said, "I may be taking it a little bit far

1 here, having all three of your diesels fail to start, but
2 diesel start failures do occur." And just so they can see
3 that -- in the industry and you know back in the output see
4 at this plant, and this plant and at t his plant they had
5 diesels that failed to start. Whether it was during routine
6 surveillance checks or when they were supposed to start.
7 MR. JORDAN: So you trained on steam cooling?
8 MR. WALSH: Yes, I have.
9 MR. JORDAN: Did you use an RHR? They're familiar
10 with how to do that?
11 MR. WALSH: Steam cooling as far as when you're in
12 the EOP contingency.
13 MR. JORDAN: Okay.
14 MR. WALSH: When you have no injection sources
15 available.
16 MR. CONTE: How about steam condensing mode of
17 RHR? Do you know if your people are trained on that?
18 MR. WALSH: We have trained on the RHR system, the
19 interlocks, what you can do with the system. In one of our
20 start up scenarios -- excuse me, one of our shutdown
21 scenarios, and I think the last time we ran that was about a
22 year ago. We put them in steam condensing, have a loss of
23 all steam -- or, have a loss of all core cooling, so it's
24 like they use both RHR loops and then they have to flood up
25 the vessel and keep the vessel cooled. We'll do things like

1 that.

2 Some of our scenarios, if we have extra time,

3 we'll let them run a little bit longer so they can go into

4 like steam condensing.

5 I was working with a group yesterday where, you

6 know, we had some extra time left so I just let the scenario

7 run on. They placed steam condensing in service.

8 MR. CONTE: That's something that they normally

9 get trained on -- on some aspect whether -- in a two year

10 cycle.

11 MR. WALSH: At least annually.

12 MR. CONTE: Is steam condensing using the RHR

13 system? Is that what you're talking about, or is steam

14 condensing used in the -- steam cooling using the EOP's?

15 MR. WALSH: Both. We are returning steam

16 coolants, steam condensing gets done, I'd say at least bi-

17 annually.

18 MR. CONTE: Okay.

19 MR. WALSH: I could check our training records and

20 see, you know, when was the last time we did it.

21 MR. CONTE: I'm not asking you that.

22 MR. WALSH: For those scenarios.

23 MR. CONTE: I'm not asking you to do that right

24 now.

25 MR. WALSH: I was just, you know, going from

1 memory.

2 MR. CONTE: As far as a very specific question,

3 how do you train people to read recorded and recorder

4 charts? Do they train them to use the scale that's on the

5 recorder or the scale that's used on the chart itself?

6 MR. WALSH: I have never trained specifically on

7 that.

8 MR. CONTE: No one has asked you; your operators

9 coming through the scenarios and they asked you, what am I

10 supposed to be reading here when I look at a recorder? For

11 example, I'm going to plot cooldown rate, what do I use, the

12 scale on the meter associated with the recorder, or do I use

13 the paper?

14 MR. WALSH: Well, they have a procedure for

15 plotting cooldown range -- they'll go off the temperature

16 recorders.

17 MR. CONTE: Is the procedure specific to say --

18 when you're figuring out your divisions and scales, does the

19 procedure specifically say to use the strip chart or to use

20 the meter on the instrument?

21 MR. WALSH: I don't know.

22 MR. CONTE: Okay. How about training on overall

23 command and control in the simulator? How often, when is

24 it done and what have you?

25 MR. WALSH: Just as far as command and control and

1 that's something we train on constantly, whenever you're
2 running a training scenario or an evaluated scenario, I mean
3 that's one of the things, as an evaluator or an instructor
4 you constantly look at. If it's a training scenario you can
5 provide prompts to the SRO's right on the floor. When it's
6 an evaluated scenario in the post-exercise assessment, you
7 know, you'll discuss their command and control.
8 MR. CONTE: How about the 10 CFR 50.54(x) actions
9 on emergency? Do you know what that's all about?
10 MR. WALSH: I understand what that's about. As
11 far as training them to use that, we don't specifically
12 train them to use that, we train them to operate within the
13 guidelines of their procedures. We do have a 10 CFR
14 overview lecture that I believe covers that.
15 MR. CONTE: What's the nature of the training, if
16 they can't follow those procedures? What are they expected
17 -- what do you train them to do?
18 MR. WALSH: As part of my job I write all my
19 scenarios so that they do have procedural guidance that they
20 can use, whether it be from the emergency operating
21 procedures or from their normal operating procedures. I've
22 never written scenarios that takes them outside their
23 procedures.
24 MR. CONTE: Okay.
25 MR. WALSH: Because if I'm writing a scenario and

1 I see somewhere to go, if I see there's a hole in a
2 procedure, I'll identify that to the station management or
3 I'll write a procedure change evaluation form and get it
4 corrected.
5 Then I try to put them in situations where they
6 have to use a thought process to prioritize what's
7 important; especially when you get into, you know, seven
8 legs of EOP's, I try to train them to prioritize, you know,
9 what you need to take care of first and what you can let
10 sit. But as far as operating outside the procedures, I
11 don't write scenarios to do that.
12 MR. CONTE: Let me be a little more specific.
13 You know, the EOP's talk about using available sources of
14 water, it lists feed and condensate on a post-trip?
15 MR. WALSH: Yes.
16 MR. CONTE: Feed and condensate RCIC, HPCS, let's
17 say they want to and during this event they wanted to get
18 the feedwater back on the line; for some reason it had
19 tripped, okay. I guess they got, later in the morning they
20 got into a problem where the suction valve on the feedwater
21 pump was closed. Apparently they did that because procedure
22 told them to do it.
23 MR. WALSH: Um hm.
24 MR. CONTE: And the complaint I heard was, well,
25 the procedure is oriented towards start-up, normal start-up

1 of feed and condensate, not from a post-trip need to get
2 condensate and feed back on the line quickly. How do you
3 run through -- you know, what do you teach? Is that -- I
4 think what I'm hearing, and I don't want to put words in
5 your mouth, I would like you to explain it; I think what I'm
6 hearing is that they need to get feed and condensate back on
7 the line on a post-trip response, they go to the normal
8 procedure and do the best they can to get it on the line
9 following that procedure. Is that what I'm hearing?
10 MR. WALSH: They have to operate within their
11 procedural guidelines, yes.
12 MR. CONTE: There is no quick method to get
13 condensate and feed to avoid the detailed -- gory detailed
14 precautions and what have you to get feed and condensate
15 started up? Do you get what I'm driving at?
16 MR. WALSH: I understand what you're driving at.
17 As far as the procedure, I would have to review the
18 procedure. I train them to operate within the guidelines of
19 the procedure. If there's a problem with the procedure the
20 SSS does have the authority to TCN it -- to put a temporary
21 change into the procedure to correct it.
22 MR. JORDAN: Is that how you train during
23 emergency conditions to -- if they need to write a -- if the
24 procedures they're in doesn't get them through the task to
25 write TCN's to the procedures in order to continue on?

1 MR. WALSH: No, I guess I've never experienced
2 that in writing a simulator training session or an
3 evaluated scenario; where the procedure did not work. And
4 when we find things where the procedure doesn't work we get
5 it corrected. We identify it and get the procedure
6 corrected so that it is acceptable for what they need.
7 MR. CONTE: Could you tell me what your knowledge
8 level of 50.54(x) means to you in training operators --
9 from memory?
10 MR. WALSH: From memory, I understand that
11 50.54(x) allows the SSS to make a decision. He can direct
12 action outside his procedural guidelines to maintain plant
13 or public health and safety.
14 MR. CONTE: You're exactly right. Do you -- how
15 does the SSS get that training in simulator scenarios?
16 MR. WALSH: I --
17 MR. CONTE: You don't know?
18 MR. WALSH: Well, no, I guess I've never put them
19 in a situation where they have to make that decision.
20 MR. CONTE: Okay.
21 MR. WALSH: I said most all my scenarios are based
22 off of our procedures or off the emergency operating
23 procedures.
24 MR. CONTE: Okay.
25 MR. JORDAN: Can I ask a question? Do you do non-

1 licensed operator training in the simulator scenarios along
2 with the licensed operator training? Do they get involved
3 with that?
4 MR. WALSH: We don't have the -- we have the non-
5 licensed operators sit in and watch the scenarios sometime
6 so they can see what the SRO's and RO's do in the control
7 room and I know they've been working a lot trying to get the
8 non-licensed operators more simulator time. I know they've
9 been working this cycle bringing them in. They have an RHR
10 system, for example, as a lecture of the cycle. I know
11 they've been getting some time coming in and walking down
12 the RHR system, seeing how the procedure works, how their
13 controls work and things like that. But I'm not directly
14 involved with non-licensed operator training.
15 MR. JORDAN: But when you run your training, how
16 long does your training -- during the week, how long is your
17 training class for simulator training?
18 MR. WALSH: Each day -- like we'll start out on
19 Monday, they'll have EOP lab which is basically we've taken
20 the classroom lecture for emergency operating procedures for
21 whatever leg we decided to train on this cycle and we teach
22 that in the simulator; using the combination simulator,
23 freeze points, discuss basis, discuss actions, then we'll
24 normally do two JPM's and that will be the morning for the
25 crew and in the afternoon they'll go to classroom lectures

1 then the next morning they come back and they'll have all
2 simulator training scenarios for the morning on Tuesday,
3 Wednesday afternoon classroom, or excuse me, Tuesday
4 afternoon classroom, Wednesday morning again is all
5 simulator training, the afternoon is classroom, Thursday
6 morning is evaluated scenarios, afternoon is classroom; on
7 Friday we will normally do industry event review,
8 examinations, both static exam and a classroom written exam
9 and then usually Friday afternoon is like some type of
10 optional training that's not required by, you know, 10 CFR,
11 license or anything like that.
12 MR. JORDAN: So typically during a training week
13 mornings are simulators and the afternoons are classrooms?
14 MR. WALSH: Yes, and then the staff groups just go
15 opposite of that.
16 MR. JORDAN: Okay. Now, when you do your
17 simulator scenario training, do they -- the operators get in
18 a crew configuration?
19 MR. WALSH: That's correct.
20 MR. JORDAN: Okay. Do they -- do you bring your
21 non-licensed operators in there and so that if a licensed
22 operator -- I'm trying to figure out how realistic do you
23 work this; a licensed operator says okay, I need somebody to
24 go out and check the CRD pressure or something else. Do
25 they say, okay, fine, Joe, you go do that and he then exits

1 the control room so that he knows now he only has two left
2 or three left or one left or --
3 MR. WALSH: No. No, normally the simulator
4 operator acts as the auxiliary operator. What we've been
5 doing with the non-licensed operators this cycle, they
6 started this, I guess about four or five weeks ago, we've
7 been bringing them in and letting them sit and watch the
8 scenario, observe what the SRO's are doing and then we try
9 to have someone there to explain to them what's going on and
10 what the scenario is. Just so they get a little bit of that
11 flavor of what goes on in the control room.
12 MR. JORDAN: Go ahead, Rich.
13 MR. CONTE: Can you run through what you teach
14 them, from an immediate-action point of view, on a normal
15 scram? What do you expect the operators to do? Do you have
16 that committed to memory, those immediate actions?
17 MR. WALSH: I could probably tell you the majority
18 of them, but the immediate actions --
19 MR. CONTE: Run through a couple of them, just to
20 give me a flavor.
21 MR. WALSH: Place the mode switch in shutdown;
22 verify all rods in by using either the full-core display,
23 RSCS, or the rod worth minimizer, or a computer printout;
24 verify house loads transfer; verify scram discharge volume
25 as isolated; verify reactor water level, power, pressure.

1 The way we have the operators trained, the first reports
2 they'll try to get to the SSS are all rods in or power less
3 than 4 percent, reactor water level, and reactor pressure.
4 Some of the follow-up actions: insert IRMs, SRMs; range-
5 down on those IRMs.
6 MR. CONTE: Follow-up actions: IRMs, SRMs,
7 and --
8 MR. WALSH: Yes.
9 MR. CONTE: -- what else? Follow-up action.
10 MR. WALSH: Trip the reactor water cleanup pump or
11 place it in reject. I believe that's --
12 MR. CONTE: Do you know if that was done the
13 morning of this event, trip the reactor water cleanup?
14 MR. WALSH: I have no idea.
15 MR. CONTE: Okay. Go ahead. Anything else that
16 you can remember?
17 MR. WALSH: No, but then, at that point, I'm not
18 sure -- the immediate scram action and post-scram actions
19 are posted right on the console, right behind the full-core
20 display, so the operator can turn around and go through and
21 verify he's completed those actions correctly. There is an
22 operator aid out of the shutdown procedure, OP-101(c).
23 MR. JORDAN: Do you know why you trip the reactor
24 water cleanup? Is that what you said?
25 MR. CONTE: Yes. That's what I thought.

1 MR. WALSH: No, I thought you asked if it was done
2 the morning of the event.
3 MR. JORDAN: He did. I'm just asking you, why do
4 -- One of the follow-up actions, you're saying, is to trip
5 the reactor water cleanup system or put it in reject.
6 MR. WALSH: Yes. I believe that's right.
7 MR. JORDAN: Okay. Can you tell me the
8 justification for why you have your operators do that?
9 MR. WALSH: To the best of my knowledge, it's to
10 prevent temperature stratification at the nozzle, where it
11 mixes back in. Where the cleanup return comes back in and
12 mixes with the feedwater, they don't want a large
13 temperature differential there.
14 MR. CONTE: You don't expect the feedwater system
15 to lock up or any of the feed pumps to trip on a reactor
16 trip; is that correct?
17 MR. WALSH: On a normal transient, no.
18 MR. CONTE: Okay. Are there any checks of feed
19 and condensate in this immediate action and follow-up
20 review?
21 MR. WALSH: Verify your water levels in the normal
22 operating band. If water level goes below -- I'm not sure
23 if this is in the scram procedure or not, but, if you go
24 below 159.3, verify you've got setpoint set-down.
25 MR. CONTE: So the level's going down is an

1 immediate clue that you lost feed; go check that system out;
2 start alternate measures, alternate feedwater systems, RCIC
3 or HPCS, whatever is needed. Is that a general idea?
4 If level is trending down, you go check feed and
5 condensate.
6 MR. WALSH: Yes.
7 MR. CONTE: You see the pumps are tripped; you
8 try to get them started or go to RCIC.
9 MR. WALSH: It would be up to the SRO; it depends
10 on why they tripped. If you have indication of an
11 electrical fault on the pump, or whatever, something wrong
12 with the feed and condensate system --
13 MR. CONTE: It requires an SS to order that, what
14 alternate system or to restart the feed and condensate? It
15 would require the SS to order that; the RO couldn't take it
16 upon himself to do that; is that correct? Is that the way
17 you train?
18 MR. WALSH: I would expect the RO to identify to
19 the SSS, I've lost the feed and condensate system, and at
20 that point the SSS could either give the order, restore feed
21 and condensate, or use one of his alternate systems if he
22 has gone below 159.3, as listed in the EOPs. Or, if the
23 operator says, This tripped; I can restore it this way, then
24 the SSS can give the order to restore it that way. As far
25 as maintaining command and control, that's what I would

1 expect, as an instructor.

2 MR. CONTE: Okay.

3 Have you been involved with the running of the dry

4 run of the event in the simulator? Have you been involved

5 with that at all?

6 MR. WALSH: I was over there the other day after

7 they put it together, and they brought the crew over and ran

8 the event and made a tape of it.

9 MR. CONTE: Did you observe that?

10 MR. WALSH: Not the whole thing, no. I had other

11 duties at the time.

12 MR. CONTE: Okay.

13 MR. WALSH: But I've set it up. I've seen what it

14 looks like. I've been showing some of the other crews this

15 week. My two crews that are over here in training this

16 week, I've shown them the event.

17 MR. CONTE: Do you know enough about that

18 demonstration scenario -- do you get the feed pump trip and

19 the reg valve lockout on the simulator?

20 MR. WALSH: When that scenario was put together,

21 they put it in there so the feed pump would trip.

22 MR. CONTE: Oh, okay. You're putting malfunctions

23 in to simulate what --

24 MR. WALSH: Based off of what the operators had

25 told the --

1 MR. CONTE: You're not doing a cause-and-effect
2 kind of thing.
3 MR. WALSH: No.
4 MR. CONTE: Okay.
5 MR. WALSH: We made the event go like they said it
6 did.
7 MR. JORDAN: Reactor scram initiation, what kind
8 of training do you give your people, as far as -- what
9 authorization does the RO have to initiate a scram? Does he
10 have to request authorization? And as far as the SS for
11 authorization, as far as himself initiating the scram, or is
12 he the only one that has to direct it?
13 MR. WALSH: The way we train, if the RO sees a
14 condition that requires a reactor scram, we train him to
15 say, SSS, I am placing the mode switch in shutdown due to
16 this, so the SSS maintains command and control.
17 MR. JORDAN: Does he have to get authorization
18 before he does it, or can he just go ahead and do it?
19 MR. WALSH: I believe it's within the guidelines
20 of his license and what our procedures say that he can do.
21 If he sees like an automatic action that should have
22 occurred, he can take action to do that.
23 MR. JORDAN: He doesn't have to request permission
24 before he does it?
25 MR. WALSH: The way we train --

1 MR. JORDAN: I'm just asking the way you train.
2 MR. WALSH: That's what I'm telling you. We train
3 the guys for things that should have occurred, or if they
4 have to do something -- if it's an action that they're going
5 to take, to tell the SSS, I'm placing the mode switch in
6 shutdown due to -- so he maintains the command and control.
7 Same with like initiation, initiating Div 2 ECCS.
8 MR. JORDAN: And when he says that, you don't
9 expect him to have a response back, Go ahead and do it, or
10 he can just go ahead and do it?
11 MR. WALSH: He can do it. He gets some type of
12 response back from the S -- "I understand" -- and do it,
13 take the action.
14 MR. JORDAN: If he doesn't get the response
15 back --
16 MR. WALSH: I guess it would depend on the
17 situation.
18 MR. JORDAN: If he has indication that he has an
19 ATWS, the RO knows that he should have the mode switch in
20 shutdown.
21 MR. WALSH: That's correct.
22 MR. JORDAN: Okay. You're saying he tells the SS,
23 I'm going to put the mode switch --
24 MR. WALSH: Placing the mode switch into shutdown,
25 so the whole team is aware.

1 MR. JORDAN: Right. Now, if he doesn't get the
2 response back from the SS that says, Go ahead and put the
3 mode switch in shutdown --
4 MR. WALSH: He would place it in shutdown.
5 MR. JORDAN: You train the person to go ahead and
6 place the switch in shutdown.
7 MR. WALSH: Because that's an immediate action.
8 MR. JORDAN: That you expect him to do.
9 MR. WALSH: Yes, for that type of situation. You
10 said, an ATWS. If he looks up, he sees his RPS trips are
11 in, but his scram lights are still on, I'm placing the mode
12 switch into shutdown; we have a scram, and do it.
13 MR. JORDAN: And do it. Okay. You don't expect
14 him to receive a response back to go ahead and do it before
15 he does it.
16 MR. WALSH: No.
17 MR. JORDAN: Okay. Immediate actions like that,
18 he is authorized to do those actions, whether he gets a
19 response back to authorize him to do them or not.
20 MR. WALSH: I would expect that, as a trainer.
21 MR. JORDAN: As a trainer. Okay.
22 I'm just asking how you train your people.
23 MR. WALSH: Yes. I guess I just didn't
24 understand. It depends on the circumstances. If there are
25 no alarms in, or anything, and the RO wants to place the

1 mode switch in shutdown --

2 MR. JORDAN: When you say, I'm placing the mode

3 switch in shutdown, on your first response, I got the

4 feeling that you'd expect a response back before he does it.

5 I just wanted to make sure that, if he doesn't get the

6 response, do you train your people to --

7 MR. WALSH: In the circumstance of an ATWS, like I

8 said, he looked up; he saw he had reactor scram indications

9 in but no scram had occurred; his solenoid lights were still

10 energized -- I'd expect him to say, SSS, reactor scram; I'm

11 placing the mode switch in shutdown.

12 MR. JORDAN: And then do it.

13 MR. WALSH: Yes, sir.

14 MR. JORDAN: Whether he gets a response from the

15 SS or not.

16 MR. WALSH: Yes, sir.

17 MR. JORDAN: Thank you.

18 MR. CONTE: What do you expect to see on CRD flow

19 on a normal, post-trip basis. And do you go over that in

20 training?

21 MR. WALSH: I expect the CRD system to run out,

22 because you just started emptying your accumulators, so I'd

23 expect it to run out.

24 MR. CONTE: Then accumulators run out.

25 MR. WALSH: Until the scram discharge volume gets

1 full.

2 MR. CONTE: Right. What kind of flow are you

3 expecting to see on it?

4 MR. WALSH: Well, with the reactor scram, once you

5 get the scram discharge volume full, you'll be putting about

6 140 gallons a minute into the reactor, so I expect to see

7 high flows.

8 MR. CONTE: Do you focus on that in your training?

9 MR. WALSH: When we're using CRD as the source of

10 injection. We've discussed that -- you know, how much flow

11 you're going to get -- because one of the systems listed

12 that you can use as a source of injection in the EOPs is

13 CRD.

14 MR. CONTE: Is there a specific training scenario

15 that focuses on the CRD system and what you expect to see on

16 a post-trip basis.

17 MR. WALSH: Not that I can recall.

18 MR. CONTE: Okay.

19 So 140 gallons a minute with the scram discharge

20 signal in.

21 MR. WALSH: Well, with the reactor tripped.

22 MR. CONTE: With the reactor tripped. Is there a

23 different in that flow if you reset the scram?

24 MR. WALSH: Yes.

25 MR. CONTE: How much flow do you get when you

reset the scram?

MR. WALSH: The exact numbers I don't know, but, because all your scram valves will be closed now, you won't push as much into the reactor anymore. The numbers I couldn't tell you off the top of my head.

MR. CONTE: It goes back to normal flow?

MR. WALSH: Once your accumulators are recharged, I would expect it to, yes.

MR. CONTE: Which is what, 60 gallons a minute, 70 gallons a minute?

MR. WALSH: Well, I believe 63.

MR. CONTE: And you go through this on the simulator with --

MR. WALSH: I've only worked in the requal program. I couldn't tell you that much about the initial program.

MR. CONTE: Okay.

MR. WALSH: But as far --

MR. CONTE: Do you remember doing that in the last two years, let's take a look at CRD system on a post trip?

MR. WALSH: To sit down specifically and point out CRD for a post trip? No. What we have discussed before is fact like this cycle I'm teaching the RL-Leg, the level control leg of the EOP RPV control. And so when we go through the different sources it has, you have -- like our

1 procedure says, you can use CRD for injection, use an OP 30
2 section, H.7, I believe it is. And it tells you what to do
3 in that procedure to maximize CRD flow. And so like one of
4 the things that I've done is talked on how you maximize CRD
5 flow and what the procedure says and the guidance and the
6 procedure as fast as if you get low suction alarms not to
7 exceed 40 amps on the pumps and things like that.
8 MR. CONTE: Do you have a lesson plan on that?
9 MR. WALSH: It's not a specific lesson plan, but
10 it's part of teaching that leg of the EOP's; when I go
11 through each one if it refers you to an EOP attachment or a
12 procedure I go through it with them what it says in there.
13 MR. CONTE: So, it's a lesson plan on the EOP
14 section?
15 MR. WALSH: Yes. Yes.
16 MR. CONTE: I see. Okay.
17 MR. JORDAN: The EOP for the -- for the leg, level
18 leg, what kind of flows can you get, you say that on a
19 reactor trip it sounds like you're going to get about 140
20 gpm, what's the maximum flow that you can get using CRD
21 injection?
22 MR. WALSH: I believe it's about 140 gallons per
23 minute, that's the maximum you'll get.
24 MR. JORDAN: That means you have one pump
25 operating or two pump operating?

1 MR. WALSH: With flow maximized with both pumps
2 running.
3 MR. JORDAN: With both pumps running?
4 MR. WALSH: I believe that's about what you'll
5 get.
6 MR. JORDAN: About 140? Okay.
7 MR. WALSH: I could get solid numbers for you,
8 this is just going from my memory.
9 MR. JORDAN: That's fine.
10 MR. CONTE: How about training on valve
11 operations? Initiations of flows? Obviously, for example,
12 you need to be careful in starting the cool down, you can't
13 be heavy handed on the bypass valves. Do you do any of that
14 discussion in the simulator or is that mostly in initial
15 training?
16 MR. WALSH: Well, as far as control and cool down
17 rates and stuff, we do discuss and we've done some things
18 with like operating in C5 power level control, where you've
19 lowered level to control power; and then we'll have them
20 restore levels, so that's where they're feeding in, they
21 have to control their cooldown rate by using pressure and
22 also the effects of the colder feed water gone in and we've
23 done some things with that. And also in our shutdown
24 there's a -- for the annual manipulations for performing
25 reactor shutdown, it goes into lower in -- or excuse me,

1 doing the shutdown action, starting the cooldown and things
2 like that.
3 MR. CONTE: Do you ever go through the infrequent
4 operation of flushing the shutdown cooling system, the RHR
5 pipe being -- and then initiating shutdown cooling; do you
6 go through that evolution?
7 MR. WALSH: There is nothing specifically written
8 to go through that. We review the procedure as part of the
9 normal operating or normal classroom training, but as far as
10 a simulator scenario to do that, I don't recall one being
11 written.
12 MR. JORDAN: How about reactor water cleanup? You
13 say that on a trip you can either secure the pump or do
14 what, max discharge, is that what it is to the RAD waste?
15 MR. WALSH: I believe the procedure tells them to
16 place it in reject mode.
17 MR. JORDAN: Reject mode? How about training on
18 that, specific training on that? Do you give them the
19 option that if they decide to trip it, that's fine? Do you
20 give them -- do you do specific training on how to put it
21 into reject mode?
22 MR. WALSH: Not that I have done.
23 MR. CONTE: You say you have gone through some
24 initiation of cooldown using the bypass valves?
25 MR. WALSH: We've done it with the crews before.

1 Like in some cases where you give them a leak in the reactor
2 or to help slowdown the leak they'll bring pressure down
3 using the bypass valves, they'll lower pressure to help
4 slowdown the leak. Annually we do a startup scenario and a
5 shutdown scenario and I believe in the shutdown scenario it
6 does have them start a cooldown. I would have to check
7 that, though.
8 MR. CONTE: It sounds like -- I don't want to put
9 words in your mouth, but it sounds like a major focus on the
10 simulator is the manipulations and responses to emergencies?
11 MR. WALSH: No. That's not totally true. We try
12 to put a balance in on -- of normal operating type stuff in
13 our things too.
14 MR. CONTE: Give me some example of normal
15 operating?
16 MR. WALSH: Power manipulations, lower power,
17 increase power, start-ups, shutdowns --
18 MR. CONTE: What do you mean by start-up and shut-
19 down? I mean, there's a lot of evolutions in start-up and
20 shut-down?
21 MR. WALSH: Plant start-up and plant shut-down.
22 MR. CONTE: You go from cold iron all the way up
23 to power? Do you go through that evolution on the
24 simulator?
25 MR. WALSH: Not all the way down to cold iron.

1 What we'll do with them is we'll have specific parts, you
2 know, where the major manipulations are and we don't have
3 anything where they sit there and drive rods for hours
4 bringing power down, but like the major points where shift
5 and recirc pumps whether it be up or down on placing the
6 mode switch to start-up or placing the mode switch to run,
7 getting power down into the IRM's.
8 MR. CONTE: How about coming out of shutdown
9 cooling and going into shutdown cooling? Starting the
10 reactor water cleanup -- isolating reactor water cleanup?
11 MR. WALSH: To the best of my knowledge, we have -
12 - I have never written anything that has us doing work with
13 reactor water cleanup.
14 For shutdown cooling and part of our shutdown
15 lesson plan, we have them in shutdown cooling, they loose
16 shutdown cooling and I'll get these alternate means for
17 decay heat removal.
18 MR. CONTE: Okay. We're going to be asking for
19 some lesson plans and really an index of lesson plans. I
20 understand there's separate sets of lesson plans; one for
21 requal and one for licensed operator and one for AO. I
22 guess we're also probably going to be -- is there an index
23 of training scenarios and is it important to keep
24 remembering the initial versus the requal training scenarios
25 or the training scenarios are mixed to be used in either --

1 MR. WALSH: I'm not that familiar with -- if they
2 use any of our material on the license -- initial license
3 program.
4 MR. CONTE: Okay. So there is a distinction
5 between requal and initial? You have a bank of training
6 scenarios in requal?
7 MR. WALSH: Yes. There's about 42 or 43 training
8 scenarios.
9 MR. CONTE: So, if we want to know anything about
10 initial we will need to ask, do you have training scenarios
11 for the initial?
12 MR. WALSH: Yes.
13 MR. CONTE: Okay.
14 MR. WALSH: They may use some of our material, I
15 don't know.
16 MR. JORDAN: You don't know if you're using any of
17 their material for your requal?
18 MR. WALSH: No.
19 MR. CONTE: Have you gone through anything
20 recently on SRV actuations and what are the immediate
21 actions?
22 MR. WALSH: Inadvertent SRV actuations? There's a
23 couple of training scenarios, there's a couple of evaluated
24 scenarios where an SRV -- they had an inadvertent lift of
25 the SRV, they have to recognize, you know, they have five

1 minutes to get it closed or place the mode switch in
2 shutdown. And that walks them through. Placing the key aux
3 switch to off, going to the back panels removing the fuses
4 to the solenoids to try to de-energize it. And then using
5 their plant indications to see if the valve closed or not.
6 MR. CONTE: Okay.
7 MR. JORDAN: How about follow-up actions?
8 MR. WALSH: As far as -- the biggest follow-up
9 actions is to monitor their suppression pool temperature, if
10 they need to, place suppression pool cooling in service,
11 verify the plant stabilizers as far as we try to train them
12 to use all their indicators, steam flow, feed flow,
13 mismatch, change of megawatts electric, acoustic monitors,
14 chang in steam line flows; especially because once they pull
15 the fuse now they don't have the indicating light in the
16 control room and so they have enough redundant
17 instrumentation to tell them whether it's open or closed.
18 MR. JORDAN: How about actions such as the vacuum
19 breakers on the reactor building or on the drywell, all
20 actions as resulted in this surveillance type of thing, are
21 those trained on also?
22 MR. WALSH: They would be questioned as far as,
23 you know, what type of tech spec actions and things you have
24 to meet as far as doing the surveillance; as part of the
25 scenario, no.

1 MR. CONTE: You mentioned a review of events on
2 the weekly requal, I guess on Fridays.
3 MR. WALSH: Yes.
4 MR. CONTE: How else do you get involved with the
5 teaching of industry experience?
6 MR. WALSH: In our simulator scenarios and in our
7 training scenarios and in our evaluated scenarios, some of
8 them reference other industry events.
9 MR. CONTE: Lesson plans and scenarios reference
10 these other industry events?
11 MR. WALSH: Some of them do, not all of them. It
12 depends on when it was being generated. Our weekly course,
13 I do that, the weekly course on industry events. What we
14 try to do there is, I'll take information, whether it's NRC
15 information notices, INPO SERs, SOARs, whatever, and what
16 we've been doing with that -- and we've had a lot of success
17 with it -- is breaking them into groups, letting them
18 analyze the event and try to do a root-cause, and the
19 letting them identify what things we have in place to
20 prevent something similar from happening to us. That has
21 been really successful, because the operators get to sit
22 down, tear the event apart, look at what happened, identify
23 possible causes.
24 I usually have them try to do a root-cause
25 analysis. Then what I do is, usually I break them up into

1 four groups; I'll have like four events to do with them.
2 I'll break them up into four groups, let them tear apart the
3 event, come up with some possible causes, what we have in
4 place at our plant to prevent similar things from happening,
5 and then I'll have someone from the group just give a
6 summary of the event and what their group found. If the
7 site has issued a response to it, then I'll go over what the
8 site response was to it also -- if it's one of the ones that
9 requires a site response.
10 MR. CONTE: Millstone Three just had a loss of
11 annunciators. Do you know anything about that?
12 MR. WALSH: No. How long ago?
13 MR. CONTE: Time flies when you're having fun. My
14 guess is within the last two months.
15 MR. WALSH: In the last two months? Most of the
16 information I get, if it comes from NPRDS, that's pretty
17 quick, because we get a printout from that, usually weekly,
18 or from -- one of the other databases; I forget -- we get a
19 printout like weekly. One of the guys in our group looks
20 through that stuff, sees if there's anything pertinent.
21 But if it's like an information notice, SER, SOAR,
22 things like that, sometimes they take a little while if
23 they've got to go through the site for a response, and then
24 an training decision is made, and then it will get rolled
25 into my program, for industry events.

1 But as far as that particular event, no, I have
2 not seen that yet.
3 MR. CONTE: We understand there was a line 5 loss,
4 one of the transmission lines on Unit Two.
5 MR. WALSH: Yes, about two months ago, I believe
6 it was -- a month ago, something like that.
7 MR. CONTE: Did you get involved with any training
8 as a result of that?
9 MR. WALSH: We had already been training on that.
10 We had started training -- I think it was the previous
11 cycle, or during the cycle. Because it was interesting:
12 One of the things the guys said to us was, How did you know
13 that was going to happen? We had done it in the simulator
14 form for, I guess, the cycle before they were there. That
15 was part of our overall training to work more on the
16 electrical boards, as I was telling you earlier. It was
17 just one of those areas where we realized we weren't doing
18 enough work there.
19 MR. CONTE: Are you aware of any major operator
20 performance problem in response to that line 5 loss, or
21 would you characterize that any resulting training actions
22 that came out of that were more enhancements?
23 MR. WALSH: A couple of the guys that had gone
24 through the event came over and watched how it was modeled
25 in the simulator, and they gave us some feedback as far as

1 like service water system response, drywell cooling
2 response, and we improved the model based on that, as far as
3 like valve stroke times, things like that. But there was no
4 -- at least on my level -- and they may be cycling through;
5 I don't know; I'm just at the instructor level. If there
6 were major programs, there might be something cycling back
7 through the program from ops management. I don't know,
8 though.
9 MR. CONTE: Did that result in a reactor trip?
10 MR. WALSH: The loss of the line? No.
11 MR. CONTE: Was there something that happened like
12 within the last year or two on electrical distribution,
13 other than the recognition of additional need of training in
14 that area? Was there another event on line 5 in the last
15 two years, or last year, that you're aware of?
16 MR. WALSH: Not that I can recall at the moment.
17 That doesn't mean there wasn't. There are a lot
18 of things that happen.
19 MR. CONTE: Okay.
20 Simulator fidelity questions: Do you have any
21 problems with simulator fidelity, based on your experience?
22 MR. WALSH: I think our simulator fidelity is very
23 good. The simulator has been modeled, and the simulator
24 group is very responsive as far as helping us to do things
25 we need to, especially when you start getting into

1 contingencies and things like that. We take the operators'
2 feedback, and we try to incorporate it as quickly as
3 possible when they tell us, This didn't work right, or, This
4 isn't the way it is. We'll roll that into what's called a
5 DR, or discrepancy report, and we'll write that up to the
6 simulator group. They'll evaluate it and see if it actually
7 needs to be implemented.
8 MR. CONTE: What generally tends to be a problem
9 is the modeling of secondary containment problems in order
10 to get the implementation of those EOPs, line breaks,
11 outside primary containment into the second containment.
12 How are you on that?
13 MR. WALSH: There are several malfunctions that we
14 can use to simulate a break in the second containment.
15 There is one from the RCIC system; there's one from reactor
16 water cleanup; and there's also a scram discharge volume
17 rupture that I can use. The modeling on those is, they get
18 the area temperatures; they'll get some radiation monitors.
19 MR. CONTE: So you can exercise the legs of the
20 second containment.
21 MR. WALSH: Yes. And then, to exercise that leg,
22 I can put in the leak on the first side of the reactor core
23 isolation cooling system and override the isolation valves,
24 so they do not close. That way, we can exercise that leg of
25 the EOP, make them make the decision, if they have to

1 emergency depressurize or not, and continue from there.
2 MR. CONTE: Just for the record, we were talking
3 about the legs of secondary containment and the EOPs.
4 I don't have anything else. Mike?
5 MR. JORDAN: Yes. I've got just a -- shoot. I
6 had it and I lost it.
7 Oh. Have you heard of any follow-up training that
8 you've heard was needed as a result of this event, excluding
9 the obvious one on the UPS loss and the indication of those
10 -- such as, do you need additional training on RCIC
11 operation or equipment that they had to operate that either
12 they didn't operate correctly or need additional training
13 on, outside of just the loss of UPS?
14 MR. WALSH: Nothing has been generated to me yet
15 as an instructor to, you know, create this. We did go over
16 and talk to the crew, I guess it was two days after the
17 event. We came in early in the morning and talked to them
18 about what things they thought we did well to help them go
19 through the event and what things we could do to improve.
20 They did identify some things they thought that would help
21 them, as far as like the variety of things we do on the
22 simulator.
23 What else did they talk about?
24 MR. JORDAN: How about feedwater system? How
25 about the RHR system? You know, systems that they operated

1 as a result of the event -- is there anything that they felt
2 that they need additional training on, that I needed to
3 operate this system; it didn't operate the way I expected it
4 to operate.
5 MR. WALSH: I personally didn't get any direct
6 feedback on that. That doesn't mean there wasn't any given.
7 MR. JORDAN: You just haven't received it yet, if
8 there is any.
9 MR. WALSH: That's correct.
10 MR. JORDAN: Okay.
11 That's the only questions I have. We can go off
12 the record.
13 [Whereupon, at 11:53 a.m., the taking of the
14 interview was concluded.]
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25

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 PAT WALSH

DOCKET NUMBER:

PLACE OF PROCEEDING: Scriba, N.Y.

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

JON HUNDLEY
Official Reporter
Ann Riley & Associates, Ltd.

07-113B-91

OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
Incident Investigation Team

Title: Nine Mile Point Nuclear Power Plant
Interview of: PAT WALSH

Docket No.

LOCATION: Scriba, New York

DATE: Thursday, August 22, 1991

PAGES: 1 - 44

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1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION
3 INCIDENT INVESTIGATION TEAM
4
5 -
6 Interview of :
7 PAT WALSH :
8 (Closed) :
9 -
10
11 Conference Room B
12 Administration Building
13 Nine Mile Point Nuclear
14 Power Plant, Unit Two
15 Lake Road
16 Scriba, New York 13093
17 Thursday, August 22, 1991
18
19 The interview commenced, pursuant to notice,
20 at 11:00 a.m.
21
22 PRESENT FOR THE IIT:
23 Michael Jordan, NRC
24 Rich Conte, NRC
25

P R O C E E D I N G S

[11:00 a.m.]

MR. JORDAN: This is August the 22nd, 1991. It is 11:00 in the morning. We are at the Nine Mile Point Unit Two in the P Building.

We are conducting interviews concerning a transient that occurred on August the 13th, 1991.

My name is Michael Jordan and I am with the U.S. NRC out of Region III.

MR. CONTE: I am Rich Conte, Region I.

MR. WALSH: My name is Pat Walsh. I work for Niagara Mohawk Power Corporation as a Senior Operations Instructor.

MR. JORDAN: Okay, Pat. Why don't you give us your background, Pat, what is your background?

MR. WALSH: My background? I've been working for Niagara Mohawk for about two years now in the licensed operator requal program. Prior to that I worked for about six months at Unit One developing exam material. Prior to that I was a Navy-Nuc. I spent about eight and a half years in the Navy, two and a half as an instructor at one of the prototype units and about three and a half years on board the USS Daniel Webster as a Reactor Controls Division Leading Petty Officer and also responsible for, for about two years I was responsible for the engineering department

training program.

MR. JORDAN: Rich, you want to walk through the event? Run through the questions?

MR. CONTE: Yes. Let me ask on your background here, you are right now an instructor in requal. You said that you spent a year in development of lesson plans for the requal or the initial program?

MR. WALSH: Oh, my experience at Niagara Mohawk is I came in here about two and a half years ago working for General Physics Corporation.

Initially I worked at Unit One developing exam material and lesson plans for about six months. Then I went to a cert class. I am a certified Senior Reactor Operator on Nine Mile Point Unit Two. When I graduated from that course I initially worked in Unit Two requal training doing classroom training and for about the last year I have been doing simulator training.

MR. CONTE: Okay. So most of your knowledge right now is based on licensed operator requal?

MR. WALSH: That's correct.

MR. CONTE: What does the job task analysis for the uninterruptable power supply indicate? Are you familiar with that? What kind of objectives, enabling objective and learning objectives, does it specify for the uninterruptable power supplies?

MR. WALSH: For the uninterruptable power supplies I have never taught that material. We had a lesson plan developed on uninterruptable power supplies that was based on the INPO SOER and that's about as far as I know with that. I have never taught that material.

MR. CONTE: When was that INPO SOER come out -- when did it?

MR. WALSH: I think it is one of the older ones from the mid-'80s. I can get that information if you'd like it. It is an SOER --

MR. CONTE: Is it referenced in the lesson plan?

MR. WALSH: Yes. I believe so.

MR. CONTE: We are asking for the lesson plans, so you don't have to get that for us.

MR. WALSH: I could bring that over you this afternoon if you would like it.

MR. CONTE: If we need it, I'll ask you.

Okay, I guess the same thing on control room panels and annunciators. You are not that familiar with job task analysis but --

MR. WALSH: Besides what we teach in the simulator, since I do mostly simulator instruction and I write a lot of the material for the simulator, a lot of the scenarios for both the exam bank scenarios and the training scenarios that we use, most of the tasks that are driven off

1 a lot of the EOP type tasks -- use of the emergency
2 operating procedures, being able to implement them, and the
3 subtasks associated with that for the reactor operators.
4 MR. CONTE: Do you train the initial people, most
5 of them, in the simulator?
6 MR. WALSH: No, I don't work in initial training.
7 MR. CONTE: So this is just requal.
8 MR. WALSH: Yes, sir.
9 MR. CONTE: Can you give us an idea of in light of
10 the event -- oh, I know, we needed to ask did you have --
11 before we ask that question, did you have any participation
12 in this event the day of the event?
13 MR. WALSH: No, I did not.
14 MR. CONTE: Were you on shift as a support?
15 MR. WALSH: No. The only participation I had that
16 day was doing a little bit of research for the ELF over at
17 the training center.
18 MR. CONTE: Why don't you run down what you have
19 covered I guess, say in the last two years, dealing with
20 anything on the uninterruptable power supply or loss of
21 annunciators, complete loss, partial loss, and loss of
22 instrumentation in the control room.
23 MR. WALSH: A lot of what we have been doing in
24 the requal program, especially on the last two to three
25 cycles, have been working with electrical plant

Exhibit 3-1 (continued)

ADDENDUM TO INTERVIEW OF Patrick Walsh / Sr. Operations Instructor.
(Name/Position)

Page	Line	Correction and Reason for Correction
6	17	"follow as indicator" should be "fail indicators"
8	12	"i" should be "in"
8	21	"or" should be "so"
9	13	"it into" should be "Let"
37	2	"AUX" should be "Look"

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1 malfunctions, whether it has been a loss of DC, a loss of a
2 switchgear, loss of offsite power.
3 We have been working a lot with the electrical
4 distribution system.
5 MR. CONTE: Why is that?
6 MR. WALSH: We recognize it as an area that we
7 weren't doing a lot of work on and so we thought based on
8 operations management feedback we decided to concentrate on
9 that area along with EOP usage and implementation.
10 MR. CONTE: Okay, continue.
11 Anything related -- do you remember anything
12 recently on the loss of annunciators, partial loss of
13 annunciators, loss of instrumentation?
14 MR. WALSH: Loss of instrumentation we don't do
15 complete and we don't do anything as drastic as what
16 happened last week as far as that much annunciation loss but
17 we do routinely follow an indicator so the operator has to
18 use a backup indicator, inadvertent initiation of equipment
19 so they have to check the alternate indication to make sure
20 that the plant is in a safe condition.
21 For example, like you know, inadvertent initiation
22 of a division of ECCS and they have to verify the reactor
23 pressure or excuse me their drywell pressure, the reactor
24 level are satisfactory using redundant instrumentation in
25 that the ECCS initiation was inadvertent.

1 MR. JORDAN: How about annunciator loss,
2 instrumentation loss. How about annunciator losses?
3 MR. WALSH: Annunciator losses? No, we haven't
4 specifically written anything that I can remember.
5 We have just gotten new malfunctions into the
6 simulator that allow us to take out annunciator boards and
7 they are just starting to give us a little bit better
8 simulation on UPS's and taking those away.
9 If that stuff that we had requested be put into
10 the simulator a while ago at the exact dates we requested I
11 don't know but its recent malfunctions that we've gotten and
12 would like for the annunciators specifically and we have
13 been testing them out, but as far as having them formally
14 written into a lesson plan, they have just been released for
15 training in the loss of annunciators.
16 That allows us to just -- I can take out like one
17 annunciator panel at a time if I want to use remote
18 functions.
19 MR. CONTE: What are the symptoms of the loss of
20 an annunciator panel? Can the operators detect that?
21 MR. WALSH: They'll lose all the indication on the
22 panel and if I remember correctly on how that malfunction
23 works they'll get an alarm but they won't get any lights on
24 that panel. They will get the siren.
25 MR. CONTE: I see.

1 MR. JORDAN: He gets the audible alarm --
2 MR. WALSH: Yes.
3 MR. JORDAN: But not the flashing lights.
4 MR. WALSH: Yes.
5 MR. CONTE: You may get involved with this. We
6 have just talked to Bob Smith and he is going to want us --
7 we asked for a demonstration of the types of things you have
8 run as we're talking. I think he is trying to set that up
9 for tomorrow some time.
10 MR. WALSH: Okay.
11 MR. CONTE: You may well get involved with that.
12 MR. WALSH: Probably. We do a variety of things i
13 our requal program. We try to concentrate on both normal
14 operations and emergency operating procedures.
15 We implemented Rev. 4 of the EOPs about ten months
16 ago so we have been spending a lot of time working in the
17 contingencies, working in the normal legs, also along with
18 working electrical distribution, a variety of different
19 faults.
20 We try to have, most scenarios try to have some
21 type of instrumentation problem or they have to check a
22 backup instrument. We have a variety of scenarios that will
23 do that.
24 MR. CONTE: Is it fair to say that your training
25 scenarios are primarily limited to what you just said --

1 annunciator panels at a time, isolated instrument failures,
2 up and down? Is there anything else in any of your
3 training scenario banks that helps prepare the operators in
4 a piecemeal fashion for what happened?
5 MR. WALSH: Well, I think a lot of what may have
6 helped them during this event is the fact like as you said a
7 piecemeal type of thing.
8 We have never -- I have never written a scenario
9 that you know failed all the UPS's. I have written
10 scenarios that failed different indicators and they have to
11 use backup indicators or lose power to a certain indicator
12 by taking like a DC bus away, normal switchgear away and not
13 let it into divisional diesel start so they don't have that
14 indication and they have to use redundant instrumentation.
15 MR. CONTE: You mentioned the development of these
16 scenarios. How receptive is your management to new ideas?
17 MR. WALSH: Very receptive. A lot of things we
18 have been doing in our simulator program recently is we have
19 been taking data from the NPRDS, National -- oh, I forget
20 the name of it. It's one of the INPO data bases for like
21 equipment failures and stuff, and that has been real
22 helpful in telling the operators, so we can say, yes, this
23 really did happen to somebody else and we try to take
24 information from SOERs, from some of your NRC information
25 notices, things like that when I build scenarios.

1 For some of the EOP scenarios I mean you're pretty
2 much limited. If you want to get them to a certain leg in
3 the EOPs, you have to fail a lot of equipment,
4 instrumentation, whatever, to drive them into some of the
5 legs that you want to get to if you have really gone down
6 deep into the EOPs.
7 MR. CONTE: Were you --
8 MR. JORDAN: No, I was just saying -- we're real
9 familiar with the fact that it takes -- it takes a lot to
10 drive in the EOP's and to the --
11 MR. WALSH: Into the contingencies.
12 MR. JORDAN: Yeah. And it's something that's
13 difficult to do and it's way beyond what is the normal
14 expected response and it's almost like this. You know, when
15 you say well, that can't happen because in order to get here
16 -- that far in to the EOP's, you've had a lot of failures.
17 As we find out from this event, everything is possible.
18 MR. WALSH: Oh, for example --
19 MR. JORDAN: Everything is possible.
20 MR. WALSH: Last cycle I was teaching steam
21 cooling in the simulator and I did that by giving them a
22 loss of all -- loss of all AC power and then what I backed
23 it up with, you know, I showed them some examples of plants
24 that had failures of diesels to start -- you know, failure
25 of diesels and I said, "I may be taking it a little bit far

1 here, having all three of your diesels fail to start, but
2 diesel start failures do occur." And just so they can see
3 that -- in the industry and you know back in the output see
4 at this plant, and this plant and at t his plant they had
5 diesels that failed to start. Whether it was during routine
6 surveillance checks or when they were supposed to start.
7 MR. JORDAN: So you trained on steam cooling?
8 MR. WALSH: Yes, I have.
9 MR. JORDAN: Did you use an RHR? They're familiar
10 with how to do that?
11 MR. WALSH: Steam cooling as far as when you're in
12 the EOP contingency.
13 MR. JORDAN: Okay.
14 MR. WALSH: When you have no injection sources
15 available.
16 MR. CONTE: How about steam condensing mode of
17 RHR? Do you know if your people are trained on that?
18 MR. WALSH: We have trained on the RHR system, the
19 interlocks, what you can do with the system. In one of our
20 start up scenarios -- excuse me, one of our shutdown
21 scenarios, and I think the last time we ran that was about a
22 year ago. We put them in steam condensing, have a loss of
23 all steam -- or, have a loss of all core cooling, so it's
24 like they use both RHR loops and then they have to flood up
25 the vessel and keep the vessel cooled. We'll do things like

1 that.

2 Some of our scenarios, if we have extra time,

3 we'll let them run a little bit longer so they can go into

4 like steam condensing.

5 I was working with a group yesterday where, you

6 know, we had some extra time left so I just let the scenario

7 run on. They placed steam condensing in service.

8 MR. CONTE: That's something that they normally

9 get trained on -- on some aspect whether -- in a two year

10 cycle.

11 MR. WALSH: At least annually.

12 MR. CONTE: Is steam condensing using the RHR

13 system? Is that what you're talking about, or is steam

14 condensing used in the -- steam cooling using the EOP's?

15 MR. WALSH: Both. We are returning steam

16 coolants, steam condensing gets done, I'd say at least bi-

17 annually.

18 MR. CONTE: Okay.

19 MR. WALSH: I could check our training records and

20 see, you know, when was the last time we did it.

21 MR. CONTE: I'm not asking you that.

22 MR. WALSH: For those scenarios.

23 MR. CONTE: I'm not asking you to do that right

24 now.

25 MR. WALSH: I was just, you know, going from

1 memory.

2 MR. CONTE: As far as a very specific question,
3 how do you train people to read recorded and recorder
4 charts? Do they train them to use the scale that's on the
5 recorder or the scale that's used on the chart itself?

6 MR. WALSH: I have never trained specifically on
7 that.

8 MR. CONTE: No one has asked you; your operators
9 coming through the scenarios and they asked you, what am I
10 supposed to be reading here when I look at a recorder? For
11 example, I'm going to plot cooldown rate, what do I use, the
12 scale on the meter associated with the recorder, or do I use
13 the paper?

14 MR. WALSH: Well, they have a procedure for
15 plotting cooldown range -- they'll go off the temperature
16 recorders.

17 MR. CONTE: Is the procedure specific to say --
18 when you're figuring out your divisions and scales, does the
19 procedure specifically say to use the strip chart or to use
20 the meter on the instrument?

21 MR. WALSH: I don't know.

22 MR. CONTE: Okay. How about training on overall
23 command and control in the simulator? How often, when is
24 it done and what have you?

25 MR. WALSH: Just as far as command and control and

1 that's something we train on constantly, whenever you're
2 running a training scenario or an evaluated scenario, I mean
3 that's one of the things, as an evaluator or an instructor
4 you constantly look at. If it's a training scenario you can
5 provide prompts to the SRO's right on the floor. When it's
6 an evaluated scenario in the post-exercise assessment, you
7 know, you'll discuss their command and control.
8 MR. CONTE: How about the 10 CFR 50.54(x) actions
9 on emergency? Do you know what that's all about?
10 MR. WALSH: I understand what that's about. As
11 far as training them to use that, we don't specifically
12 train them to use that, we train them to operate within the
13 guidelines of their procedures. We do have a 10 CFR
14 overview lecture that I believe covers that.
15 MR. CONTE: What's the nature of the training, if
16 they can't follow those procedures? What are they expected
17 -- what do you train them to do?
18 MR. WALSH: As part of my job I write all my
19 scenarios so that they do have procedural guidance that they
20 can use, whether it be from the emergency operating
21 procedures or from their normal operating procedures. I've
22 never written scenarios that takes them outside their
23 procedures.
24 MR. CONTE: Okay.
25 MR. WALSH: Because if I'm writing a scenario and

1 I see somewhere to go, if I see there's a hole in a
2 procedure, I'll identify that to the station management or
3 I'll write a procedure change evaluation form and get it
4 corrected.
5 Then I try to put them in situations where they
6 have to use a thought process to prioritize what's
7 important; especially when you get into, you know, seven
8 legs of EOP's, I try to train them to prioritize, you know,
9 what you need to take care of first and what you can let
10 sit. But as far as operating outside the procedures, I
11 don't write scenarios to do that.
12 MR. CONTE: Let me be a little more specific.
13 You know, the EOP's talk about using available sources of
14 water, it lists feed and condensate on a post-trip?
15 MR. WALSH: Yes.
16 MR. CONTE: Feed and condensate RCIC, HPCS, let's
17 say they want to and during this event they wanted to get
18 the feedwater back on the line; for some reason it had
19 tripped, okay. I guess they got, later in the morning they
20 got into a problem where the suction valve on the feedwater
21 pump was closed. Apparently they did that because procedure
22 told them to do it.
23 MR. WALSH: Um hm.
24 MR. CONTE: And the complaint I heard was, well,
25 the procedure is oriented towards start-up, normal start-up

1 of feed and condensate, not from a post-trip need to get
2 condensate and feed back on the line quickly. How do you
3 run through -- you know, what do you teach? Is that -- I
4 think what I'm hearing, and I don't want to put words in
5 your mouth, I would like you to explain it; I think what I'm
6 hearing is that they need to get feed and condensate back on
7 the line on a post-trip response, they go to the normal
8 procedure and do the best they can to get it on the line
9 following that procedure. Is that what I'm hearing?
10 MR. WALSH: They have to operate within their
11 procedural guidelines, yes.
12 MR. CONTE: There is no quick method to get
13 condensate and feed to avoid the detailed -- gory detailed
14 precautions and what have you to get feed and condensate
15 started up? Do you get what I'm driving at?
16 MR. WALSH: I understand what you're driving at.
17 As far as the procedure, I would have to review the
18 procedure. I train them to operate within the guidelines of
19 the procedure. If there's a problem with the procedure the
20 SSS does have the authority to TCN it -- to put a temporary
21 change into the procedure to correct it.
22 MR. JORDAN: Is that how you train during
23 emergency conditions to -- if they need to write a -- if the
24 procedures they're in doesn't get them through the task to
25 write TCN's to the procedures in order to continue on?

1 MR. WALSH: No, I guess I've never experienced
2 that in writing a simulator training session or an
3 evaluated scenario; where the procedure did not work. And
4 when we find things where the procedure doesn't work we get
5 it corrected. We identify it and get the procedure
6 corrected so that it is acceptable for what they need.
7 MR. CONTE: Could you tell me what your knowledge
8 level of 50.54(x) means to you in training operators --
9 from memory?
10 MR. WALSH: From memory, I understand that
11 50.54(x) allows the SSS to make a decision. He can direct
12 action outside his procedural guidelines to maintain plant
13 or public health and safety.
14 MR. CONTE: You're exactly right. Do you -- how
15 does the SSS get that training in simulator scenarios?
16 MR. WALSH: I --
17 MR. CONTE: You don't know?
18 MR. WALSH: Well, no, I guess I've never put them
19 in a situation where they have to make that decision.
20 MR. CONTE: Okay.
21 MR. WALSH: I said most all my scenarios are based
22 off of our procedures or off the emergency operating
23 procedures.
24 MR. CONTE: Okay.
25 MR. JORDAN: Can I ask a question? Do you do non-

1 licensed operator training in the simulator scenarios along
2 with the licensed operator training? Do they get involved
3 with that?
4 MR. WALSH: We don't have the -- we have the non-
5 licensed operators sit in and watch the scenarios sometime
6 so they can see what the SRO's and RO's do in the control
7 room and I know they've been working a lot trying to get the
8 non-licensed operators more simulator time. I know they've
9 been working this cycle bringing them in. They have an RHR
10 system, for example, as a lecture of the cycle. I know
11 they've been getting some time coming in and walking down
12 the RHR system, seeing how the procedure works, how their
13 controls work and things like that. But I'm not directly
14 involved with non-licensed operator training.
15 MR. JORDAN: But when you run your training, how
16 long does your training -- during the week, how long is your
17 training class for simulator training?
18 MR. WALSH: Each day -- like we'll start out on
19 Monday, they'll have EOP lab which is basically we've taken
20 the classroom lecture for emergency operating procedures for
21 whatever leg we decided to train on this cycle and we teach
22 that in the simulator; using the combination simulator,
23 freeze points, discuss basis, discuss actions, then we'll
24 normally do two JPM's and that will be the morning for the
25 crew and in the afternoon they'll go to classroom lectures

1 then the next morning they come back and they'll have all
2 simulator training scenarios for the morning on Tuesday,
3 Wednesday afternoon classroom, or excuse me, Tuesday
4 afternoon classroom, Wednesday morning again is all
5 simulator training, the afternoon is classroom, Thursday
6 morning is evaluated scenarios, afternoon is classroom; on
7 Friday we will normally do industry event review,
8 examinations, both static exam and a classroom written exam
9 and then usually Friday afternoon is like some type of
10 optional training that's not required by, you know, 10 CFR,
11 license or anything like that.
12 MR. JORDAN: So typically during a training week
13 mornings are simulators and the afternoons are classrooms?
14 MR. WALSH: Yes, and then the staff groups just go
15 opposite of that.
16 MR. JORDAN: Okay. Now, when you do your
17 simulator scenario training, do they -- the operators get in
18 a crew configuration?
19 MR. WALSH: That's correct.
20 MR. JORDAN: Okay. Do they -- do you bring your
21 non-licensed operators in there and so that if a licensed
22 operator -- I'm trying to figure out how realistic do you
23 work this; a licensed operator says okay, I need somebody to
24 go out and check the CRD pressure or something else. Do
25 they say, okay, fine, Joe, you go do that and he then exits

1 the control room so that he knows now he only has two left
2 or three left or one left or --
3 MR. WALSH: No. No, normally the simulator
4 operator acts as the auxiliary operator. What we've been
5 doing with the non-licensed operators this cycle, they
6 started this, I guess about four or five weeks ago, we've
7 been bringing them in and letting them sit and watch the
8 scenario, observe what the SRO's are doing and then we try
9 to have someone there to explain to them what's going on and
10 what the scenario is. Just so they get a little bit of that
11 flavor of what goes on in the control room.
12 MR. JORDAN: Go ahead, Rich.
13 MR. CONTE: Can you run through what you teach
14 them, from an immediate-action point of view, on a normal
15 scram? What do you expect the operators to do? Do you have
16 that committed to memory, those immediate actions?
17 MR. WALSH: I could probably tell you the majority
18 of them, but the immediate actions --
19 MR. CONTE: Run through a couple of them, just to
20 give me a flavor.
21 MR. WALSH: Place the mode switch in shutdown;
22 verify all rods in by using either the full-core display,
23 RSCS, or the rod worth minimizer, or a computer printout;
24 verify house loads transfer; verify scram discharge volume
25 as isolated; verify reactor water level, power, pressure.

1 The way we have the operators trained, the first reports
2 they'll try to get to the SSS are all rods in or power less
3 than 4 percent, reactor water level, and reactor pressure.
4 Some of the follow-up actions: insert IRMs, SRMs; range-
5 down on those IRMs.
6 MR. CONTE: Follow-up actions: IRMs, SRMs,
7 and --
8 MR. WALSH: Yes.
9 MR. CONTE: -- what else? Follow-up action.
10 MR. WALSH: Trip the reactor water cleanup pump or
11 place it in reject. I believe that's --
12 MR. CONTE: Do you know if that was done the
13 morning of this event, trip the reactor water cleanup?
14 MR. WALSH: I have no idea.
15 MR. CONTE: Okay. Go ahead. Anything else that
16 you can remember?
17 MR. WALSH: No, but then, at that point, I'm not
18 sure -- the immediate scram action and post-scram actions
19 are posted right on the console, right behind the full-core
20 display, so the operator can turn around and go through and
21 verify he's completed those actions correctly. There is an
22 operator aid out of the shutdown procedure, OP-101(c).
23 MR. JORDAN: Do you know why you trip the reactor
24 water cleanup? Is that what you said?
25 MR. CONTE: Yes. That's what I thought.

1 MR. WALSH: No, I thought you asked if it was done
2 the morning of the event.
3 MR. JORDAN: He did. I'm just asking you, why do
4 -- One of the follow-up actions, you're saying, is to trip
5 the reactor water cleanup system or put it in reject.
6 MR. WALSH: Yes. I believe that's right.
7 MR. JORDAN: Okay. Can you tell me the
8 justification for why you have your operators do that?
9 MR. WALSH: To the best of my knowledge, it's to
10 prevent temperature stratification at the nozzle, where it
11 mixes back in. Where the cleanup return comes back in and
12 mixes with the feedwater, they don't want a large
13 temperature differential there.
14 MR. CONTE: You don't expect the feedwater system
15 to lock up or any of the feed pumps to trip on a reactor
16 trip; is that correct?
17 MR. WALSH: On a normal transient, no.
18 MR. CONTE: Okay. Are there any checks of feed
19 and condensate in this immediate action and follow-up
20 review?
21 MR. WALSH: Verify your water levels in the normal
22 operating band. If water level goes below -- I'm not sure
23 if this is in the scram procedure or not, but, if you go
24 below 159.3, verify you've got setpoint set-down.
25 MR. CONTE: So the level's going down is an

1 immediate clue that you lost feed; go check that system out;
2 start alternate measures, alternate feedwater systems, RCIC
3 or HPCS, whatever is needed. Is that a general idea?
4 If level is trending down, you go check feed and
5 condensate.
6 MR. WALSH: Yes.
7 MR. CONTE: You see the pumps are tripped; you
8 try to get them started or go to RCIC.
9 MR. WALSH: It would be up to the SRO; it depends
10 on why they tripped. If you have indication of an
11 electrical fault on the pump, or whatever, something wrong
12 with the feed and condensate system --
13 MR. CONTE: It requires an SS to order that, what
14 alternate system or to restart the feed and condensate? It
15 would require the SS to order that; the RO couldn't take it
16 upon himself to do that; is that correct? Is that the way
17 you train?
18 MR. WALSH: I would expect the RO to identify to
19 the SSS, I've lost the feed and condensate system, and at
20 that point the SSS could either give the order, restore feed
21 and condensate, or use one of his alternate systems if he
22 has gone below 159.3, as listed in the EOPs. Or, if the
23 operator says, This tripped; I can restore it this way, then
24 the SSS can give the order to restore it that way. As far
25 as maintaining command and control, that's what I would

1 expect, as an instructor.

2 MR. CONTE: Okay.

3 Have you been involved with the running of the dry

4 run of the event in the simulator? Have you been involved

5 with that at all?

6 MR. WALSH: I was over there the other day after

7 they put it together, and they brought the crew over and ran

8 the event and made a tape of it.

9 MR. CONTE: Did you observe that?

10 MR. WALSH: Not the whole thing, no. I had other

11 duties at the time.

12 MR. CONTE: Okay.

13 MR. WALSH: But I've set it up. I've seen what it

14 looks like. I've been showing some of the other crews this

15 week. My two crews that are over here in training this

16 week, I've shown them the event.

17 MR. CONTE: Do you know enough about that

18 demonstration scenario -- do you get the feed pump trip and

19 the reg valve lockout on the simulator?

20 MR. WALSH: When that scenario was put together,

21 they put it in there so the feed pump would trip.

22 MR. CONTE: Oh, okay. You're putting malfunctions

23 in to simulate what --

24 MR. WALSH: Based off of what the operators had

25 told the --

1 MR. CONTE: You're not doing a cause-and-effect
2 kind of thing.
3 MR. WALSH: No.
4 MR. CONTE: Okay.
5 MR. WALSH: We made the event go like they said it
6 did.
7 MR. JORDAN: Reactor scram initiation, what kind
8 of training do you give your people, as far as -- what
9 authorization does the RO have to initiate a scram? Does he
10 have to request authorization? And as far as the SS for
11 authorization, as far as himself initiating the scram, or is
12 he the only one that has to direct it?
13 MR. WALSH: The way we train, if the RO sees a
14 condition that requires a reactor scram, we train him to
15 say, SSS, I am placing the mode switch in shutdown due to
16 this, so the SSS maintains command and control.
17 MR. JORDAN: Does he have to get authorization
18 before he does it, or can he just go ahead and do it?
19 MR. WALSH: I believe it's within the guidelines
20 of his license and what our procedures say that he can do.
21 If he sees like an automatic action that should have
22 occurred, he can take action to do that.
23 MR. JORDAN: He doesn't have to request permission
24 before he does it?
25 MR. WALSH: The way we train --

1 MR. JORDAN: I'm just asking the way you train.
2 MR. WALSH: That's what I'm telling you. We train
3 the guys for things that should have occurred, or if they
4 have to do something -- if it's an action that they're going
5 to take, to tell the SSS, I'm placing the mode switch in
6 shutdown due to -- so he maintains the command and control.
7 Same with like initiation, initiating Div 2 ECCS.
8 MR. JORDAN: And when he says that, you don't
9 expect him to have a response back, Go ahead and do it, or
10 he can just go ahead and do it?
11 MR. WALSH: He can do it. He gets some type of
12 response back from the S -- "I understand" -- and do it,
13 take the action.
14 MR. JORDAN: If he doesn't get the response
15 back --
16 MR. WALSH: I guess it would depend on the
17 situation.
18 MR. JORDAN: If he has indication that he has an
19 ATWS, the RO knows that he should have the mode switch in
20 shutdown.
21 MR. WALSH: That's correct.
22 MR. JORDAN: Okay. You're saying he tells the SS,
23 I'm going to put the mode switch --
24 MR. WALSH: Placing the mode switch into shutdown,
25 so the whole team is aware.

1 MR. JORDAN: Right. Now, if he doesn't get the
2 response back from the SS that says, Go ahead and put the
3 mode switch in shutdown --
4 MR. WALSH: He would place it in shutdown.
5 MR. JORDAN: You train the person to go ahead and
6 place the switch in shutdown.
7 MR. WALSH: Because that's an immediate action.
8 MR. JORDAN: That you expect him to do.
9 MR. WALSH: Yes, for that type of situation. You
10 said, an ATWS. If he looks up, he sees his RPS trips are
11 in, but his scram lights are still on, I'm placing the mode
12 switch into shutdown; we have a scram, and do it.
13 MR. JORDAN: And do it. Okay. You don't expect
14 him to receive a response back to go ahead and do it before
15 he does it.
16 MR. WALSH: No.
17 MR. JORDAN: Okay. Immediate actions like that,
18 he is authorized to do those actions, whether he gets a
19 response back to authorize him to do them or not.
20 MR. WALSH: I would expect that, as a trainer.
21 MR. JORDAN: As a trainer. Okay.
22 I'm just asking how you train your people.
23 MR. WALSH: Yes. I guess I just didn't
24 understand. It depends on the circumstances. If there are
25 no alarms in, or anything, and the RO wants to place the

1 mode switch in shutdown --

2 MR. JORDAN: When you say, I'm placing the mode

3 switch in shutdown, on your first response, I got the

4 feeling that you'd expect a response back before he does it.

5 I just wanted to make sure that, if he doesn't get the

6 response, do you train your people to --

7 MR. WALSH: In the circumstance of an ATWS, like I

8 said, he looked up; he saw he had reactor scram indications

9 in but no scram had occurred; his solenoid lights were still

10 energized -- I'd expect him to say, SSS, reactor scram; I'm

11 placing the mode switch in shutdown.

12 MR. JORDAN: And then do it.

13 MR. WALSH: Yes, sir.

14 MR. JORDAN: Whether he gets a response from the

15 SS or not.

16 MR. WALSH: Yes, sir.

17 MR. JORDAN: Thank you.

18 MR. CONTE: What do you expect to see on CRD flow

19 on a normal, post-trip basis. And do you go over that in

20 training?

21 MR. WALSH: I expect the CRD system to run out,

22 because you just started emptying your accumulators, so I'd

23 expect it to run out.

24 MR. CONTE: Then accumulators run out.

25 MR. WALSH: Until the scram discharge volume gets

1 full.

2 MR. CONTE: Right. What kind of flow are you

3 expecting to see on it?

4 MR. WALSH: Well, with the reactor scram, once you

5 get the scram discharge volume full, you'll be putting about

6 140 gallons a minute into the reactor, so I expect to see

7 high flows.

8 MR. CONTE: Do you focus on that in your training?

9 MR. WALSH: When we're using CRD as the source of

10 injection. We've discussed that -- you know, how much flow

11 you're going to get -- because one of the systems listed

12 that you can use as a source of injection in the EOPs is

13 CRD.

14 MR. CONTE: Is there a specific training scenario

15 that focuses on the CRD system and what you expect to see on

16 a post-trip basis.

17 MR. WALSH: Not that I can recall.

18 MR. CONTE: Okay.

19 So 140 gallons a minute with the scram discharge

20 signal in.

21 MR. WALSH: Well, with the reactor tripped.

22 MR. CONTE: With the reactor tripped. Is there a

23 different in that flow if you reset the scram?

24 MR. WALSH: Yes.

25 MR. CONTE: How much flow do you get when you

1 reset the scram?

2 MR. WALSH: The exact numbers I don't know, but,

3 because all your scram valves will be closed now, you won't

4 push as much into the reactor anymore. The numbers I

5 couldn't tell you off the top of my head.

6 MR. CONTE: It goes back to normal flow?

7 MR. WALSH: Once your accumulators are recharged,

8 I would expect it to, yes.

9 MR. CONTE: Which is what, 60 gallons a minute, 70

10 gallons a minute?

11 MR. WALSH: Well, I believe 63.

12 MR. CONTE: And you go through this on the

13 simulator with --

14 MR. WALSH: I've only worked in the requal

15 program. I couldn't tell you that much about the initial

16 program.

17 MR. CONTE: Okay.

18 MR. WALSH: But as far --

19 MR. CONTE: Do you remember doing that in the last

20 two years, let's take a look at CRD system on a post trip?

21 MR. WALSH: To sit down specifically and point out

22 CRD for a post trip? No. What we have discussed before is

23 fact like this cycle I'm teaching the RL-Leg, the level

24 control leg of the EOP RPV control. And so when we go

25 through the different sources it has, you have -- like our

1 procedure says, you can use CRD for injection, use an OP 30
2 section, H.7, I believe it is. And it tells you what to do
3 in that procedure to maximize CRD flow. And so like one of
4 the things that I've done is talked on how you maximize CRD
5 flow and what the procedure says and the guidance and the
6 procedure as fast as if you get low suction alarms not to
7 exceed 40 amps on the pumps and things like that.
8 MR. CONTE: Do you have a lesson plan on that?
9 MR. WALSH: It's not a specific lesson plan, but
10 it's part of teaching that leg of the EOP's; when I go
11 through each one if it refers you to an EOP attachment or a
12 procedure I go through it with them what it says in there.
13 MR. CONTE: So, it's a lesson plan on the EOP
14 section?
15 MR. WALSH: Yes. Yes.
16 MR. CONTE: I see. Okay.
17 MR. JORDAN: The EOP for the -- for the leg, level
18 leg, what kind of flows can you get, you say that on a
19 reactor trip it sounds like you're going to get about 140
20 gpm, what's the maximum flow that you can get using CRD
21 injection?
22 MR. WALSH: I believe it's about 140 gallons per
23 minute, that's the maximum you'll get.
24 MR. JORDAN: That means you have one pump
25 operating or two pump operating?

1 MR. WALSH: With flow maximized with both pumps
2 running.
3 MR. JORDAN: With both pumps running?
4 MR. WALSH: I believe that's about what you'll
5 get.
6 MR. JORDAN: About 140? Okay.
7 MR. WALSH: I could get solid numbers for you,
8 this is just going from my memory.
9 MR. JORDAN: That's fine.
10 MR. CONTE: How about training on valve
11 operations? Initiations of flows? Obviously, for example,
12 you need to be careful in starting the cool down, you can't
13 be heavy handed on the bypass valves. Do you do any of that
14 discussion in the simulator or is that mostly in initial
15 training?
16 MR. WALSH: Well, as far as control and cool down
17 rates and stuff, we do discuss and we've done some things
18 with like operating in C5 power level control, where you've
19 lowered level to control power; and then we'll have them
20 restore levels, so that's where they're feeding in, they
21 have to control their cooldown rate by using pressure and
22 also the effects of the colder feed water gone in and we've
23 done some things with that. And also in our shutdown
24 there's a -- for the annual manipulations for performing
25 reactor shutdown, it goes into lower in -- or excuse me,

1 doing the shutdown action, starting the cooldown and things
2 like that.
3 MR. CONTE: Do you ever go through the infrequent
4 operation of flushing the shutdown cooling system, the RHR
5 pipe being -- and then initiating shutdown cooling; do you
6 go through that evolution?
7 MR. WALSH: There is nothing specifically written
8 to go through that. We review the procedure as part of the
9 normal operating or normal classroom training, but as far as
10 a simulator scenario to do that, I don't recall one being
11 written.
12 MR. JORDAN: How about reactor water cleanup? You
13 say that on a trip you can either secure the pump or do
14 what, max discharge, is that what it is to the RAD waste?
15 MR. WALSH: I believe the procedure tells them to
16 place it in reject mode.
17 MR. JORDAN: Reject mode? How about training on
18 that, specific training on that? Do you give them the
19 option that if they decide to trip it, that's fine? Do you
20 give them -- do you do specific training on how to put it
21 into reject mode?
22 MR. WALSH: Not that I have done.
23 MR. CONTE: You say you have gone through some
24 initiation of cooldown using the bypass valves?
25 MR. WALSH: We've done it with the crews before.

1 Like in some cases where you give them a leak in the reactor
2 or to help slowdown the leak they'll bring pressure down
3 using the bypass valves, they'll lower pressure to help
4 slowdown the leak. Annually we do a startup scenario and a
5 shutdown scenario and I believe in the shutdown scenario it
6 does have them start a cooldown. I would have to check
7 that, though.
8 MR. CONTE: It sounds like -- I don't want to put
9 words in your mouth, but it sounds like a major focus on the
10 simulator is the manipulations and responses to emergencies?
11 MR. WALSH: No. That's not totally true. We try
12 to put a balance in on -- of normal operating type stuff in
13 our things too.
14 MR. CONTE: Give me some example of normal
15 operating?
16 MR. WALSH: Power manipulations, lower power,
17 increase power, start-ups, shutdowns --
18 MR. CONTE: What do you mean by start-up and shut-
19 down? I mean, there's a lot of evolutions in start-up and
20 shut-down?
21 MR. WALSH: Plant start-up and plant shut-down.
22 MR. CONTE: You go from cold iron all the way up
23 to power? Do you go through that evolution on the
24 simulator?
25 MR. WALSH: Not all the way down to cold iron.

1 What we'll do with them is we'll have specific parts, you
2 know, where the major manipulations are and we don't have
3 anything where they sit there and drive rods for hours
4 bringing power down, but like the major points where shift
5 and recirc pumps whether it be up or down on placing the
6 mode switch to start-up or placing the mode switch to run,
7 getting power down into the IRM's.
8 MR. CONTE: How about coming out of shutdown
9 cooling and going into shutdown cooling? Starting the
10 reactor water cleanup -- isolating reactor water cleanup?
11 MR. WALSH: To the best of my knowledge, we have -
12 - I have never written anything that has us doing work with
13 reactor water cleanup.
14 For shutdown cooling and part of our shutdown
15 lesson plan, we have them in shutdown cooling, they loose
16 shutdown cooling and I'll get these alternate means for
17 decay heat removal.
18 MR. CONTE: Okay. We're going to be asking for
19 some lesson plans and really an index of lesson plans. I
20 understand there's separate sets of lesson plans; one for
21 requal and one for licensed operator and one for AO. I
22 guess we're also probably going to be -- is there an index
23 of training scenarios and is it important to keep
24 remembering the initial versus the requal training scenarios
25 or the training scenarios are mixed to be used in either --

1 MR. WALSH: I'm not that familiar with -- if they
2 use any of our material on the license -- initial license
3 program.
4 MR. CONTE: Okay. So there is a distinction
5 between requal and initial? You have a bank of training
6 scenarios in requal?
7 MR. WALSH: Yes. There's about 42 or 43 training
8 scenarios.
9 MR. CONTE: So, if we want to know anything about
10 initial we will need to ask, do you have training scenarios
11 for the initial?
12 MR. WALSH: Yes.
13 MR. CONTE: Okay.
14 MR. WALSH: They may use some of our material, I
15 don't know.
16 MR. JORDAN: You don't know if you're using any of
17 their material for your requal?
18 MR. WALSH: No.
19 MR. CONTE: Have you gone through anything
20 recently on SRV actuations and what are the immediate
21 actions?
22 MR. WALSH: Inadvertent SRV actuations? There's a
23 couple of training scenarios, there's a couple of evaluated
24 scenarios where an SRV -- they had an inadvertent lift of
25 the SRV, they have to recognize, you know, they have five

1 minutes to get it closed or place the mode switch in
2 shutdown. And that walks them through. Placing the key aux
3 switch to off, going to the back panels removing the fuses
4 to the solenoids to try to de-energize it. And then using
5 their plant indications to see if the valve closed or not.
6 MR. CONTE: Okay.
7 MR. JORDAN: How about follow-up actions?
8 MR. WALSH: As far as -- the biggest follow-up
9 actions is to monitor their suppression pool temperature, if
10 they need to, place suppression pool cooling in service,
11 verify the plant stabilizers as far as we try to train them
12 to use all their indicators, steam flow, feed flow,
13 mismatch, change of megawatts electric, acoustic monitors,
14 chang in steam line flows; especially because once they pull
15 the fuse now they don't have the indicating light in the
16 control room and so they have enough redundant
17 instrumentation to tell them whether it's open or closed.
18 MR. JORDAN: How about actions such as the vacuum
19 breakers on the reactor building or on the drywell, all
20 actions as resulted in this surveillance type of thing, are
21 those trained on also?
22 MR. WALSH: They would be questioned as far as,
23 you know, what type of tech spec actions and things you have
24 to meet as far as doing the surveillance; as part of the
25 scenario, no.

1 MR. CONTE: You mentioned a review of events on
2 the weekly requal, I guess on Fridays.
3 MR. WALSH: Yes.
4 MR. CONTE: How else do you get involved with the
5 teaching of industry experience?
6 MR. WALSH: In our simulator scenarios and in our
7 training scenarios and in our evaluated scenarios, some of
8 them reference other industry events.
9 MR. CONTE: Lesson plans and scenarios reference
10 these other industry events?
11 MR. WALSH: Some of them do, not all of them. It
12 depends on when it was being generated. Our weekly course,
13 I do that, the weekly course on industry events. What we
14 try to do there is, I'll take information, whether it's NRC
15 information notices, INPO SERs, SOARs, whatever, and what
16 we've been doing with that -- and we've had a lot of success
17 with it -- is breaking them into groups, letting them
18 analyze the event and try to do a root-cause, and the
19 letting them identify what things we have in place to
20 prevent something similar from happening to us. That has
21 been really successful, because the operators get to sit
22 down, tear the event apart, look at what happened, identify
23 possible causes.
24 I usually have them try to do a root-cause
25 analysis. Then what I do is, usually I break them up into

1 four groups; I'll have like four events to do with them.
2 I'll break them up into four groups, let them tear apart the
3 event, come up with some possible causes, what we have in
4 place at our plant to prevent similar things from happening,
5 and then I'll have someone from the group just give a
6 summary of the event and what their group found. If the
7 site has issued a response to it, then I'll go over what the
8 site response was to it also -- if it's one of the ones that
9 requires a site response.
10 MR. CONTE: Millstone Three just had a loss of
11 annunciators. Do you know anything about that?
12 MR. WALSH: No. How long ago?
13 MR. CONTE: Time flies when you're having fun. My
14 guess is within the last two months.
15 MR. WALSH: In the last two months? Most of the
16 information I get, if it comes from NPRDS, that's pretty
17 quick, because we get a printout from that, usually weekly,
18 or from -- one of the other databases; I forget -- we get a
19 printout like weekly. One of the guys in our group looks
20 through that stuff, sees if there's anything pertinent.
21 But if it's like an information notice, SER, SOAR,
22 things like that, sometimes they take a little while if
23 they've got to go through the site for a response, and then
24 an training decision is made, and then it will get rolled
25 into my program, for industry events.

1 But as far as that particular event, no, I have
2 not seen that yet.
3 MR. CONTE: We understand there was a line 5 loss,
4 one of the transmission lines on Unit Two.
5 MR. WALSH: Yes, about two months ago, I believe
6 it was -- a month ago, something like that.
7 MR. CONTE: Did you get involved with any training
8 as a result of that?
9 MR. WALSH: We had already been training on that.
10 We had started training -- I think it was the previous
11 cycle, or during the cycle. Because it was interesting:
12 One of the things the guys said to us was, How did you know
13 that was going to happen? We had done it in the simulator
14 form for, I guess, the cycle before they were there. That
15 was part of our overall training to work more on the
16 electrical boards, as I was telling you earlier. It was
17 just one of those areas where we realized we weren't doing
18 enough work there.
19 MR. CONTE: Are you aware of any major operator
20 performance problem in response to that line 5 loss, or
21 would you characterize that any resulting training actions
22 that came out of that were more enhancements?
23 MR. WALSH: A couple of the guys that had gone
24 through the event came over and watched how it was modeled
25 in the simulator, and they gave us some feedback as far as

1 like service water system response, drywell cooling
2 response, and we improved the model based on that, as far as
3 like valve stroke times, things like that. But there was no
4 -- at least on my level -- and they may be cycling through;
5 I don't know; I'm just at the instructor level. If there
6 were major programs, there might be something cycling back
7 through the program from ops management. I don't know,
8 though.
9 MR. CONTE: Did that result in a reactor trip?
10 MR. WALSH: The loss of the line? No.
11 MR. CONTE: Was there something that happened like
12 within the last year or two on electrical distribution,
13 other than the recognition of additional need of training in
14 that area? Was there another event on line 5 in the last
15 two years, or last year, that you're aware of?
16 MR. WALSH: Not that I can recall at the moment.
17 That doesn't mean there wasn't. There are a lot
18 of things that happen.
19 MR. CONTE: Okay.
20 Simulator fidelity questions: Do you have any
21 problems with simulator fidelity, based on your experience?
22 MR. WALSH: I think our simulator fidelity is very
23 good. The simulator has been modeled, and the simulator
24 group is very responsive as far as helping us to do things
25 we need to, especially when you start getting into

1 contingencies and things like that. We take the operators'
2 feedback, and we try to incorporate it as quickly as
3 possible when they tell us, This didn't work right, or, This
4 isn't the way it is. We'll roll that into what's called a
5 DR, or discrepancy report, and we'll write that up to the
6 simulator group. They'll evaluate it and see if it actually
7 needs to be implemented.
8 MR. CONTE: What generally tends to be a problem
9 is the modeling of secondary containment problems in order
10 to get the implementation of those EOPs, line breaks,
11 outside primary containment into the second containment.
12 How are you on that?
13 MR. WALSH: There are several malfunctions that we
14 can use to simulate a break in the second containment.
15 There is one from the RCIC system; there's one from reactor
16 water cleanup; and there's also a scram discharge volume
17 rupture that I can use. The modeling on those is, they get
18 the area temperatures; they'll get some radiation monitors.
19 MR. CONTE: So you can exercise the legs of the
20 second containment.
21 MR. WALSH: Yes. And then, to exercise that leg,
22 I can put in the leak on the first side of the reactor core
23 isolation cooling system and override the isolation valves,
24 so they do not close. That way, we can exercise that leg of
25 the EOP, make them make the decision, if they have to

1 emergency depressurize or not, and continue from there.
2 MR. CONTE: Just for the record, we were talking
3 about the legs of secondary containment and the EOPs.
4 I don't have anything else. Mike?
5 MR. JORDAN: Yes. I've got just a -- shoot. I
6 had it and I lost it.
7 Oh. Have you heard of any follow-up training that
8 you've heard was needed as a result of this event, excluding
9 the obvious one on the UPS loss and the indication of those
10 -- such as, do you need additional training on RCIC
11 operation or equipment that they had to operate that either
12 they didn't operate correctly or need additional training
13 on, outside of just the loss of UPS?
14 MR. WALSH: Nothing has been generated to me yet
15 as an instructor to, you know, create this. We did go over
16 and talk to the crew, I guess it was two days after the
17 event. We came in early in the morning and talked to them
18 about what things they thought we did well to help them go
19 through the event and what things we could do to improve.
20 They did identify some things they thought that would help
21 them, as far as like the variety of things we do on the
22 simulator.
23 What else did they talk about?
24 MR. JORDAN: How about feedwater system? How
25 about the RHR system? You know, systems that they operated

1 as a result of the event -- is there anything that they felt
2 that they need additional training on, that I needed to
3 operate this system; it didn't operate the way I expected it
4 to operate.
5 MR. WALSH: I personally didn't get any direct
6 feedback on that. That doesn't mean there wasn't any given.
7 MR. JORDAN: You just haven't received it yet, if
8 there is any.
9 MR. WALSH: That's correct.
10 MR. JORDAN: Okay.
11 That's the only questions I have. We can go off
12 the record.
13 [Whereupon, at 11:53 a.m., the taking of the
14 interview was concluded.]
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REPORTER'S CERTIFICATE

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

in the matter of:

NAME OF PROCEEDING: Int. of PAT WALSH

DOCKET NUMBER:

PLACE OF PROCEEDING: Scriba, N.Y.

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

JON HUNDLEY

Official Reporter
Ann Riley & Associates, Ltd.