ORIGINAL 07-161A-91

# OFFICIAL TRANSCRIPT OF PROCEEDINGS

Agency: Nuclear Regulatory Commission
Incident Investigation Team

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

Docket No.

LOCATION: Scriba, New York

DATE: Monday, August 26, 1991

PAGES: 1 - 19

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

September 27, 1991

MEMORANDUM FOR: Martin J. McCormick, Plant Manager, Nine Mile Point Unit 2

FROM: Wayne L. Schmidt, Senior Resident Inspector, Nine Mile Point

SUBJECT: Review of IIT Interview Transcripts

The IIT has sent the transcripts of interviews conducted with the personnel listed below to the resident inspector's office. If any of the listed individuals wish to review the transcripts they should do so at the resident inspector's office by October 4, 1991. Guidelines for the review of transcripts are provided in the enclosure. If an individual does not review his transcript by that date we will assume that he did not wish to do so and that the statement is correct to the best of his knowledge.

Alan DeGarcia, Steve Doty, Dave Barrett, Jerry Helker, Jim Burr, Bob Crandall, Robert Brown, Anil Julka, Perry Bertsch, James Spadafore, Joe Savoca, Mike Colomb, James Kinsley, Marty McCormick, Chris Kolod, Irineo Ferrer, Fred Gerardine, Anthony Petrelli, Jim Reid, Fred White, Rick Slade, Bruce Hennigan, and Tom Tomlinson.

Thank you for your help. If there are any questions please contact me.

Wayne L. Schmidt
Senior Resident Inspector
Nine Mile Point

ERRATA SHEET

ADDENDUM

| Page | Line | Correction and Reason for Correction |
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| | | |

Date _____ Signature _____

1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION
3 INCIDENT INVESTIGATION TEAM
4
5 - - - - - - - - - - - - - - - - - - - -
6 Interview of :
7 MIKE COLOMB :
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 Monday, August 26, 1991
18
19 The interview commenced, pursuant to notice,
20 at 4:00 p.m.
21
22 PRESENT FOR THE IIT:
23 Walton Jensen, NRC
24 William Vatter, INPO
25

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

2 [4:00 p.m.]

3

4 MR. VATTER: It's August 26. We're in the Nine
5 Mile Point P building, and this is an interview in
6 conjunction with the incident investigation of an event that
7 occurred at Nine Mile Point Unit Two on August 13. I'm Bill
8 Vatter.

9 MR. JENSEN: Walt Jensen, NRC.

10 MR. COLOMB: My name is Michael Colomb. I work
11 for Niagara Mohawk Power Corporation. I am the operations
12 manager at Unit Two.

13 MR. VATTER: Okay. Mike, could you give us a
14 brief outline of your background?

15 MR. COLOMB: Sure. I came with Niagara Mohawk --
16 do you want me to go all the way back to the start with
17 Niagara Mohawk? I had a very short duration with non-
18 nuclear --

19 MR. VATTER: What you think is pertinent to your
20 present job.

21 MR. COLOMB: Okay.

22 I spent several years as an auxiliary non-licensed
23 operator at Nine Mile Point Unit One and James A.
24 FitzPatrick nuclear power plants. I obtained a reactor
25 operator license at the James A. FitzPatrick nuclear power

1 plant approximately 15 years ago. I operated as an in-plant
2 licensed operator and as a control room licensed operator at
3 James A. FitzPatrick nuclear power plant during the startup
4 phase. I obtained an SRO license at Nine Mile Point Unit
5 One after leaving FitzPatrick. That was approximately
6 1981.
7 Several years later I obtained a senior reactor
8 operator license at Nine Mile Point Unit Two, became a
9 station shift supervisor at Nine Mile Point Unit Two, spent
10 several years as a station shift supervisor at Nine Mile
11 Point Unit Two, was promoted to an assistant operations
12 superintendent at Nine Mile Point Unit Two, and spent about
13 a year, I guess, as an assistant operations superintendent.
14 Then I went to a position called director of nuclear
15 regulatory compliance, which reported to what was then out
16 site superintendent. I was in that position for
17 approximately a year and then came back to operations at
18 Nine Mile Point Unit Two as operations superintendent.
19 About six months after I came back, we reorganized, and I
20 became operations manager.
21 MR. VATTER: Thanks, Mike. Your background is
22 impressive.
23 MR. COLOMB: Long, right?
24 MR. VATTER: I wanted to ask first if you could
25 just outline your role during the event. What were you

1 involved in?

2 MR. COLOMB: I was actually not involved in the

3 event. I was supposed to be on vacation when this happened.

4 I came into the scene the morning after the event. I talked

5 to Jerry Helker the evening of the event, just after we had

6 come out of the site area emergency. We discussed some of

7 the getting-into-the-outage requirements.

8 MR. VATTER: When did you find out about the

9 event?

10 MR. COLOMB: I found out about the event on

11 Tuesday, through the news media, actually, and, again, I

12 talked to the plant that night.

13 MR. VATTER: Okay.

14 I've got a couple of technical questions that I've

15 been looking for the answer to. Do you know what the

16 setpoint is for the turbine bypass valves? How much is that

17 biased above the throttle setpoint?

18 MR. COLOMB: The pressure set is a single pressure

19 set that controls both the opening of the control and bypass

20 valves; it just depends on whether or not the turbine is

21 tripped. Do you understand what I'm saying?

22 MR. VATTER: Yes, I do. So the bypass valves will

23 open to control pressure --

24 MR. COLOMB: -- after a turbine trip at the same

25 pressure setting as the turbine control system was set.

1 MR. VATTER: Thanks. I think I remember that now.
2 MR. COLOMB: Okay.
3 MR. VATTER: Do you know which safety relief
4 valves opened?
5 MR. COLOMB: By number I do not. I believe it was
6 the two with the lowest setpoint, 1076, but I don't remember
7 by number which two that is.
8 MR. VATTER: Okay.
9 I wanted to ask you about the feed pump suction
10 valves, which are MOV-84-A, B, and C.
11 MR. COLOMB: Right.
12 MR. VATTER: Our understanding is that the
13 procedure that was being used to operate the condensate
14 booster pumps requires the suction valve to be closed before
15 you start the booster pump.
16 MR. COLOMB: That's correct.
17 MR. VATTER: Why is that?
18 MR. COLOMB: I guess I'm remember back a long
19 ways, to when we inserted that in the procedure. I believe
20 we did that to reduce the possibility of having a water
21 hammer on the piping downstream of the valves and, if I
22 remember correctly -- and I'd really have to look back at
23 the history here -- it was that we had experienced some
24 lifting of suction reliefs when we started boosters pumps,
25 so we inserted that step in there to shut those valves,

1 start the booster pumps, equalize around them to get
2 pressure up in the piping downstream slowly, then open the
3 valves. I believe that is the reason, but, again, this is a
4 few years ago.
5 MR. VATTER: In order to keep moving through this,
6 our understanding is that there may have been some problem
7 with voids in that piping that would contribute to water
8 hammer. My question is, has that been a longstanding
9 problem? Has it been corrected by design change or other
10 method?
11 MR. COLOMB: I guess I don't remember voids in the
12 problem. I do remember us having the problem with the
13 suction release, and it did correct that problem. We ended
14 up making some changes to the suction relief valves, also.
15 We changed the design of the suction relief valves to make
16 them more resistant, I guess, to that type of problem.
17 Honestly I don't remember having a problem with voids in
18 that piping.
19 MR. VATTER: Do you close the discharge valve for
20 the feed pump before you close the suction valve?
21 MR. COLOMB: I'd have to look at the procedure. I
22 don't remember that step in there, but I'd have to look at
23 the procedure to be sure.
24 MR. VATTER: Do you think your operators try to
25 close discharge valves before they close suction valves? Is

1 that one of your expectations?

2 MR. COLOMB: I would say standard operating

3 practice would be to make sure a discharge valve is shut

4 before you shut a suction valve. As a matter of fact,

5 standard practice would be to make sure that the pump

6 breaker is racked out or the pump switch is open before you

7 shut a suction valve.

8 MR. VATTER: Our understanding of this event is

9 that it didn't happen like that at this time. I was

10 wondering whether you thought that was a problem or not.

11 MR. COLOMB: I believe that's in accordance with

12 the procedure. I will say that the feed pumps do not have

13 auto starts. This is a manual startup of the feedwater

14 system; it's not intended to operate that way for the long

15 term. The intention is that you would shut those valves,

16 equalize across them, open them up, and then go to the next

17 step in the procedure.

18 I guess I don't see a problem in that procedure,

19 and I think that's what the procedure reads. I don't think

20 the procedure has you racking out the breaker for the feed

21 pump before you do this. I'm sure it doesn't.

22 MR. VATTER: Okay.

23 Our understanding is that the MOV-84 is supposed

24 to be able to open against a large DP, but that's not

25 generally done that way because it's better to bypass and

1 equalize pressure. Is our understanding correct?

2 MR. COLOMB: That would be my understanding, also.

3 That's correct.

4 MR. VATTER: So it's a problem that the valve

5 would not open over that DP.

6 MR. COLOMB: I would consider that a problem if it

7 would not open at that DP. I would consider that different

8 than what I understand that valve design to do.

9 MR. VATTER: Okay.

10 Do you have questions about the MOV-84, Walt?

11 MR. JENSEN: No, I don't.

12 MR. VATTER: I wanted to ask you next about

13 radiation alarms in the turbine building. Our understanding

14 is that there were, perhaps, some continuous air monitors

15 and/or area radiation monitors that were alarming and that

16 that caused the supervisor to evacuate personnel from the

17 turbine building and that that precluded bypassing MOV-84.

18 Do you know why those alarms came in?

19 MR. COLOMB: I guess I can't say I know why those

20 alarms came in right now. No, I can't -- although I know we

21 lost a lot of power to the DRMS system. I would expect it

22 probably was related to the power loss, but I can't say that

23 I've looked at why those alarms came in.

24 MR. VATTER: Okay. So probably related to the

25 power loss, but not sure.

1 MR. COLOMB: When I think about 18 minutes, that's
2 a long time. However, it's relative. If there's a lot
3 going on, it's not that long a time to decide, We'll use the
4 137 instead of trying to get somebody in the turbine
5 building.
6 MR. VATTER: The operators put the hoggers on
7 service at about 7:30, and our understanding is that there
8 was no condenser air removal in service for about an hour
9 and a half, then, from the initiating event until when the
10 hogger was put on.
11 MR. COLOMB: Okay.
12 MR. VATTER: I was wondering whether that seemed
13 like a long time to be able to hold a vacuum without an air-
14 ejecting method.
15 MR. COLOMB: Would you repeat the time? How much
16 time?
17 MR. VATTER: Well, the event occurred at 5:48, at
18 which time we supposed that the normal air ejectors isolated
19 due to loss of the rad monitor. Then they put the hogger on
20 at 7:30, which was more than an hour and a half.
21 MR. COLOMB: That does seem like quite a bit of
22 time.
23 MR. VATTER: When they put the hogger on, our
24 understanding is that the normal air ejector radiation
25 monitor was not able to monitor that release point. I'm

1 MR. COLOMB: Right.

2 MR. VATTER: In the log we saw that the operators
3 had trouble opening MOV-84-A, B, and C at 6:40 in the
4 morning. At 6:58 they began to feed the vessel through the
5 startup bypass valve, LCV-137, and that it was about 18
6 minutes from when they were unable to open the valve in
7 their preferred flow path to when they started feeding on
8 the bypass. I wanted to know if you thought that was a long
9 period of time, 18 minutes, for them to find another path,
10 or whether that's what you would expect them to take in that
11 situation.

12 MR. COLOMB: I guess it's very hard for me,
13 without being in that situation, to make a judgement like
14 this. Eighteen minutes -- I guess when I listen to that
15 much time, it sounds like a lot of time. However, I'm sure
16 that a lot of discussion went on about what vessel level was
17 doing and what the best way was to recover it. Again, it's
18 hard to me to make that kind of a judgement without being
19 in that situation. I know they were faced with a lot
20 problems, and I'm sure a lot of discussion took place about
21 what was happening with level and what was the best way to
22 take care of the level problem.

23 I don't want to sound like I'm evading the
24 question.

25 MR. VATTER: No, I don't think so at all.

1 interesting in knowing whether you're aware of what
2 radiation monitoring of that release was accomplished.
3 MR. COLOMB: I guess I can't say that I know at
4 that point what they were using for release rate monitoring.
5 No, I do not know that.
6 MR. VATTER: Are you confident that that was a
7 monitored release?
8 MR. COLOMB: I wouldn't make that statement
9 without going back and talking to the operators again.
10 MR. VATTER: Okay. So to your knowledge that
11 hasn't been question to where somebody asked and it was
12 resolved?
13 MR. COLOMB: I guess I can say that, if it was
14 questioned, I haven't heard the answer, although I did hear
15 in an interview somebody make a statement about a skid
16 working, but I'd have to go back and look at who said that
17 and what was --
18 MR. VATTER: A skid working?
19 MR. COLOMB: Somebody was a skid working before
20 they -- I'd have to go back and look. I'd hate to make
21 that statement without going back.
22 MR. VATTER: Okay.
23 In the log, they started a second condensate pump
24 at 7:38, noting that the operating condensate pump, which
25 was the A pump -- was that P1A?

1 MR. COLOMB: Yes.

2 MR. VATTER: And then P1B was the second one.

3 I was wondering if you had any feel for why that

4 might have been a problem, that they had to have two

5 condensate pumps.

6 What I think might have happened is that the

7 condensate reject valve to the condenser opened with the

8 loss of control power to the condensate system and that the

9 valve was not reclosed at a later time when power was

10 restored and that there was a rather large amount of

11 condensate flow as being diverted back to the condenser.

12 MR. COLOMB: My understanding of that is we saw --

13 they saw a high standard temperature on the one pump. I

14 believe they recognized the fact that it was a due to a high

15 flow condition and started the second condensate pump.

16 MR. VATTER: I wondered whether they should have

17 been reducing the amount of flow on that running pump?

18 MR. COLOMB: What I can't say is what was

19 happening with the min flow valve. You mentioned that you

20 thought a valve had failed opened and not been reclosed,

21 that valve normally acts automatically, or rather it should

22 have been acting automatically if the power was restored.

23 MR. VATTER: So if the pump had a high flow

24 condition, we don't know exactly where all that flow was

25 going?

1 MR. COLOMB: I can't say -- I can't say where all
2 that flow was going.
3 MR. VATTER: I can't either, I guess. I'm just
4 trying to guess a little bit and try to figure that out.
5 MR. COLOMB: I know that they saw a high standard
6 temperature on it. I believe it was related to high flow
7 when they started the second pump to provide the additional
8 flow.
9 MR. VATTER: We also noted in the log that the
10 stack GEMS, that gaseous effluent monitoring system was
11 inoperable at 8:05, but apparently that had been inoperable
12 for a long period of time or from the start of the event.
13 MR. COLOMB: I know it was inoperable, I know we
14 were tracking why that was a problem. We're looking into
15 why that was a problem. I can't say it was inoperable
16 before the event without looking back, I guess.
17 MR. VATTER: I didn't mean to imply that I thought
18 it was. My perception was that it became inoperable at the
19 start of the event?
20 MR. COLOMB: Yes, I believe that's true.
21 MR. VATTER: And that they recognized that it was
22 inoperable at 8:05 and declared it such?
23 MR. COLOMB: Right. That sounds correct.
24 MR. VATTER: Now, I'm not sure what all different
25 ways you have of monitoring a release path from the

1 condenser, but if the condenser air rejecter is not
2 available, if that rad monitor is not available and the
3 stack GEMS is not available, is there some other radiation
4 monitor in that release path that we'd be able to see?
5 MR. COLOMB: No. I don't believe there is. I
6 think that if the GEMS is inoperable, then the next method
7 is grab samples.
8 MR. VATTER: Okay. So possibly there was an
9 unmonitored release at 7:30 when they put the hoggers on
10 service? I don't know how important that is, but we're
11 trying to understand that.
12 MR. COLOMB: Um hm. I understand.
13 MR. VATTER: Who do you think I ought to talk to
14 to get a more clear perception of that release path and how
15 it might have been monitored?
16 MR. COLOMB: Do you what to know specifics about
17 what somebody saw in the event or do you want to just know
18 technically how the release path is monitored?
19 MR. VATTER: I would like to know how it was
20 monitored during the event because we don't -- or I don't
21 see right now a way that it was monitored. I would like to
22 know that it was being monitored.
23 MR. COLOMB: Yeah. Well, we probably have to look
24 back to the sequence and just verify the monitors. I would
25 have to say if the GEMS -- if the GEMS was inoperable and

1 the mechanical vacuum pumps were started that that was
2 probably an unmonitored release.
3 MR. VATTER: Okay. We'll need to research that a
4 little bit more.
5 MR. COLOMB: Okay.
6 MR. VATTER: Mike, those are all the questions
7 that I had for you. Is there anything that -- do you have
8 something, Walt?
9 MR. JENSEN: Yeah. I might as well ask a few.
10 Let's see, we know that at the first of the event that there
11 were two RHR trains out of service and wondering what your
12 policy was with regard in having two trains of safety
13 equipment out of service and how long they had been out of
14 service?
15 MR. COLOMB: We typically do work and preventative
16 maintenance and systems by division. It is not -- it's the
17 exception we have two out at once, but we would only do that
18 -- in other words we separate it so that if we're working on
19 division two, everything in division one and division three
20 is operable. That's how we schedule and perform our
21 maintenance and preventative maintenance and surveillance
22 activities.
23 MR. JENSEN: Do you have any effort not to have --
24 to have no more than one out of service or is this an
25 unusual circumstance to have two trains out of service at

1 the same time?

2 MR. COLOMB: I guess I would have to go back and

3 look at our history. I can say that we typically -- we

4 typically work on just one train at a time, but I can't

5 that's it's unusual that we would be working on one MOV and

6 you know if the work was scheduled, to be working on both

7 trains in a division.

8 We don't have any policy that says don't work on

9 both trains at once. We go by division and we wouldn't

10 unnecessarily schedule a train out unless we had something

11 to do on it.

12 MR. JENSEN: Okay. There was a water hammer

13 reported in the RHR system when the valve going to the rad

14 waste system was opened, I believe that was a result of

15 perhaps opening the valve too fast, done locally, has that

16 been a problem in the past? Have you had trouble with that

17 particular valve in the past?

18 MR. COLOMB: To my knowledge that has not been a

19 problem in the past.

20 MR. JENSEN: Okay. Have you had water hammers in

21 the RHR system in the past that you're aware of?

22 MR. COLOMB: Not that I'm aware of, no.

23 MR. JENSEN: There was difficulty, I believe, in

24 initiating the water cleanup system that is tripped of when

25 it's first started up and I believe that was laid to a

1 confusing procedure. Have you had trouble initiating water
2 cleanup before?
3 MR. COLOMB: We have had -- we have had problems
4 with our cleanup system, specifically the delta flows in the
5 cleanup system that were very sensitive to system
6 transients. We have had many problems with those. I can't
7 -- I'd have to look back to say that we have had this
8 specific condition. I don't think we've had this specific
9 condition before, but we have had many problems with those
10 delta flows during system configuration changes, if you
11 will; starting up, shutting down, going from one load to
12 another.
13 MR. JENSEN: And have you had trouble with water
14 hammer in the cleanup system before?
15 MR. COLOMB: I don't remember having a problem
16 with the water hammer before.
17 MR. JENSEN: Let's see, there was difficulty noted
18 with controlling the RCIC system and automatic control. Has
19 this been a long standing problem and what efforts have been
20 made to fix the automatic RCIC control?
21 MR. COLOMB: I believe we have had problems with
22 it in the past and typically what we do is on a restart
23 after any RCIC maintenance, we will run the turbine which is
24 a tech spec surveillance and tune the controller while RCIC
25 is running.

1 MR. JENSEN: Okay. There was indeterminate valve
2 position indication on the RCIC injection valves, valve
3 number 156 and 157, has this been a problem in the past?
4 MR. COLOMB: We have had problems with indications
5 and testable checks in the past, yes. RCIC -- including
6 RCIC. We have had problems with that.
7 MR. JENSEN: And this is something that occurred
8 and has been corrected as it occurred?
9 MR. COLOMB: Yes. Correct. It's had corrective
10 maintenance and modifications to the limits switch
11 configurations, both. To some of them, I can't say
12 specifically which ones.
13 MR. JENSEN: Okay. There were a couple of safety
14 valves that were leaking at the start of the event, do you
15 know how long these have been leaking and was there a
16 corrective action plan to fix the leak?
17 MR. COLOMB: They had been leaking -- if I said
18 how long it would be a guess, but they've been leaking for
19 quite a while, and yes, there are corrective -- there's
20 corrective action paperwork to fix those in refuel outage,
21 take those out and replace them in the refuel outage.
22 MR. JENSEN: What is your refueling outage
23 scheduled to be?
24 MR. COLOMB: I believe it's scheduled to start the
25 end of February of 1992.

[Pause.]

MR. JENSEN: I think that's all I have, Bill.

MR. VATTER: Mike, is there anything that you think that we haven't gotten about the event that we ought to know about?

MR. COLOMB: I guess I presume that all the information we've gotten in our RAP-6 we've shared with you, so I have to say, no, that I think you probably have all that.

MR. VATTER: What was that acronym?

MR. COLOMB: We have a reactor analysis procedure that does an evaluation of a scram. And I know we developed a sequence of events and I'm pretty confident that we've shared that with you, so I assume that --

MR. VATTER: I assume you mean the sequence of events?

MR. COLOMB: Then I think you know everything that we know about it.

MR. VATTER: Okay.

[Whereupon, at 4:30 p.m. the taking of the interview was concluded.]

REPORTER'S CERTIFICATE

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

In the Matter of:

NAME OF PROCEEDING: Interview of Mike Colomb

DOCKET NUMBER: (Not applicable)

PLACE OF PROCEEDING: Scriba, New York

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.

Mark Handy

Mark Handy
Official Reporter
Ann Riley & Associates, Ltd.

07-141B-91

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
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475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

September 27, 1991

MEMORANDUM FOR: Martin J. McCormick, Plant Manager, Nine Mile Point Unit 2

FROM: Wayne L. Schmidt, Senior Resident Inspector, Nine Mile Point

SUBJECT: Review of IIT Interview Transcripts

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Wayne L. Schmidt
Senior Resident Inspector
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ADDENDUM

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4 MR. VATTER: It's August 26. We're in the Nine
5 Mile Point P building, and this is an interview in
6 conjunction with the incident investigation of an event that
7 occurred at Nine Mile Point Unit Two on August 13. I'm Bill
8 Vatter.

9 MR. JENSEN: Walt Jensen, NRC.

10 MR. COLOMB: My name is Michael Colomb. I work
11 for Niagara Mohawk Power Corporation. I am the operations
12 manager at Unit Two.

13 MR. VATTER: Okay. Mike, could you give us a
14 brief outline of your background?

15 MR. COLOMB: Sure. I came with Niagara Mohawk --
16 do you want me to go all the way back to the start with
17 Niagara Mohawk? I had a very short duration with non-
18 nuclear --

19 MR. VATTER: What you think is pertinent to your
20 present job.

21 MR. COLOMB: Okay.

22 I spent several years as an auxiliary non-licensed
23 operator at Nine Mile Point Unit One and James A.
24 FitzPatrick nuclear power plants. I obtained a reactor
25 operator license at the James A. FitzPatrick nuclear power

1 plant approximately 15 years ago. I operated as an in-plant
2 licensed operator and as a control room licensed operator at
3 James A. FitzPatrick nuclear power plant during the startup
4 phase. I obtained an SRO license at Nine Mile Point Unit
5 One after leaving FitzPatrick. That was approximately
6 1981.
7 Several years later I obtained a senior reactor
8 operator license at Nine Mile Point Unit Two, became a
9 station shift supervisor at Nine Mile Point Unit Two, spent
10 several years as a station shift supervisor at Nine Mile
11 Point Unit Two, was promoted to an assistant operations
12 superintendent at Nine Mile Point Unit Two, and spent about
13 a year, I guess, as an assistant operations superintendent.
14 Then I went to a position called director of nuclear
15 regulatory compliance, which reported to what was then out
16 site superintendent. I was in that position for
17 approximately a year and then came back to operations at
18 Nine Mile Point Unit Two as operations superintendent.
19 About six months after I came back, we reorganized, and I
20 became operations manager.
21 MR. VATTER: Thanks, Mike. Your background is
22 impressive.
23 MR. COLOMB: Long, right?
24 MR. VATTER: I wanted to ask first if you could
25 just outline your role during the event. What were you

1 involved in?

2 MR. COLOMB: I was actually not involved in the

3 event. I was supposed to be on vacation when this happened.

4 I came into the scene the morning after the event. I talked

5 to Jerry Helker the evening of the event, just after we had

6 come out of the site area emergency. We discussed some of

7 the getting-into-the-outage requirements.

8 MR. VATTER: When did you find out about the

9 event?

10 MR. COLOMB: I found out about the event on

11 Tuesday, through the news media, actually, and, again, I

12 talked to the plant that night.

13 MR. VATTER: Okay.

14 I've got a couple of technical questions that I've

15 been looking for the answer to. Do you know what the

16 setpoint is for the turbine bypass valves? How much is that

17 biased above the throttle setpoint?

18 MR. COLOMB: The pressure set is a single pressure

19 set that controls both the opening of the control and bypass

20 valves; it just depends on whether or not the turbine is

21 tripped. Do you understand what I'm saying?

22 MR. VATTER: Yes, I do. So the bypass valves will

23 open to control pressure --

24 MR. COLOMB: -- after a turbine trip at the same

25 pressure setting as the turbine control system was set.

1 MR. VATTER: Thanks. I think I remember that now.
2 MR. COLOMB: Okay.
3 MR. VATTER: Do you know which safety relief
4 valves opened?
5 MR. COLOMB: By number I do not. I believe it was
6 the two with the lowest setpoint, 1076, but I don't remember
7 by number which two that is.
8 MR. VATTER: Okay.
9 I wanted to ask you about the feed pump suction
10 valves, which are MOV-84-A, B, and C.
11 MR. COLOMB: Right.
12 MR. VATTER: Our understanding is that the
13 procedure that was being used to operate the condensate
14 booster pumps requires the suction valve to be closed before
15 you start the booster pump.
16 MR. COLOMB: That's correct.
17 MR. VATTER: Why is that?
18 MR. COLOMB: I guess I'm remember back a long
19 ways, to when we inserted that in the procedure. I believe
20 we did that to reduce the possibility of having a water
21 hammer on the piping downstream of the valves and, if I
22 remember correctly -- and I'd really have to look back at
23 the history here -- it was that we had experienced some
24 lifting of suction reliefs when we started boosters pumps,
25 so we inserted that step in there to shut those valves,

1 start the booster pumps, equalize around them to get
2 pressure up in the piping downstream slowly, then open the
3 valves. I believe that is the reason, but, again, this is a
4 few years ago.
5 MR. VATTER: In order to keep moving through this,
6 our understanding is that there may have been some problem
7 with voids in that piping that would contribute to water
8 hammer. My question is, has that been a longstanding
9 problem? Has it been corrected by design change or other
10 method?
11 MR. COLOMB: I guess I don't remember voids in the
12 problem. I do remember us having the problem with the
13 suction release, and it did correct that problem. We ended
14 up making some changes to the suction relief valves, also.
15 We changed the design of the suction relief valves to make
16 them more resistant, I guess, to that type of problem.
17 Honestly I don't remember having a problem with voids in
18 that piping.
19 MR. VATTER: Do you close the discharge valve for
20 the feed pump before you close the suction valve?
21 MR. COLOMB: I'd have to look at the procedure. I
22 don't remember that step in there, but I'd have to look at
23 the procedure to be sure.
24 MR. VATTER: Do you think your operators try to
25 close discharge valves before they close suction valves? Is

1 that one of your expectations?

2 MR. COLOMB: I would say standard operating

3 practice would be to make sure a discharge valve is shut

4 before you shut a suction valve. As a matter of fact,

5 standard practice would be to make sure that the pump

6 breaker is racked out or the pump switch is open before you

7 shut a suction valve.

8 MR. VATTER: Our understanding of this event is

9 that it didn't happen like that at this time. I was

10 wondering whether you thought that was a problem or not.

11 MR. COLOMB: I believe that's in accordance with

12 the procedure. I will say that the feed pumps do not have

13 auto starts. This is a manual startup of the feedwater

14 system; it's not intended to operate that way for the long

15 term. The intention is that you would shut those valves,

16 equalize across them, open them up, and then go to the next

17 step in the procedure.

18 I guess I don't see a problem in that procedure,

19 and I think that's what the procedure reads. I don't think

20 the procedure has you racking out the breaker for the feed

21 pump before you do this. I'm sure it doesn't.

22 MR. VATTER: Okay.

23 Our understanding is that the MOV-84 is supposed

24 to be able to open against a large DP, but that's not

25 generally done that way because it's better to bypass and

1 equalize pressure. Is our understanding correct?

2 MR. COLOMB: That would be my understanding, also.

3 That's correct.

4 MR. VATTER: So it's a problem that the valve

5 would not open over that DP.

6 MR. COLOMB: I would consider that a problem if it

7 would not open at that DP. I would consider that different

8 than what I understand that valve design to do.

9 MR. VATTER: Okay.

10 Do you have questions about the MOV-84, Walt?

11 MR. JENSEN: No, I don't.

12 MR. VATTER: I wanted to ask you next about

13 radiation alarms in the turbine building. Our understanding

14 is that there were, perhaps, some continuous air monitors

15 and/or area radiation monitors that were alarming and that

16 that caused the supervisor to evacuate personnel from the

17 turbine building and that that precluded bypassing MOV-84.

18 Do you know why those alarms came in?

19 MR. COLOMB: I guess I can't say I know why those

20 alarms came in right now. No, I can't -- although I know we

21 lost a lot of power to the DRMS system. I would expect it

22 probably was related to the power loss, but I can't say that

23 I've looked at why those alarms came in.

24 MR. VATTER: Okay. So probably related to the

25 power loss, but not sure.

1 MR. COLOMB: Right.

2 MR. VATTER: In the log we saw that the operators
3 had trouble opening MOV-84-A, B, and C at 6:40 in the
4 morning. At 6:58 they began to feed the vessel through the
5 startup bypass valve, LCV-137, and that it was about 18
6 minutes from when they were unable to open the valve in
7 their preferred flow path to when they started feeding on
8 the bypass. I wanted to know if you thought that was a long
9 period of time, 18 minutes, for them to find another path,
10 or whether that's what you would expect them to take in that
11 situation.

12 MR. COLOMB: I guess it's very hard for me,
13 without being in that situation, to make a judgement like
14 this. Eighteen minutes -- I guess when I listen to that
15 much time, it sounds like a lot of time. However, I'm sure
16 that a lot of discussion went on about what vessel level was
17 doing and what the best way was to recover it. Again, it's
18 hard to me to make that kind of a judgement without being
19 in that situation. I know they were faced with a lot
20 problems, and I'm sure a lot of discussion took place about
21 what was happening with level and what was the best way to
22 take care of the level problem.

23 I don't want to sound like I'm evading the
24 question.

25 MR. VATTER: No, I don't think so at all.

1 MR. COLOMB: When I think about 18 minutes, that's
2 a long time. However, it's relative. If there's a lot
3 going on, it's not that long a time to decide, We'll use the
4 137 instead of trying to get somebody in the turbine
5 building.
6 MR. VATTER: The operators put the hoggers on
7 service at about 7:30, and our understanding is that there
8 was no condenser air removal in service for about an hour
9 and a half, then, from the initiating event until when the
10 hogger was put on.
11 MR. COLOMB: Okay.
12 MR. VATTER: I was wondering whether that seemed
13 like a long time to be able to hold a vacuum without an air-
14 ejecting method.
15 MR. COLOMB: Would you repeat the time? How much
16 time?
17 MR. VATTER: Well, the event occurred at 5:48, at
18 which time we supposed that the normal air ejectors isolated
19 due to loss of the rad monitor. Then they put the hogger on
20 at 7:30, which was more than an hour and a half.
21 MR. COLOMB: That does seem like quite a bit of
22 time.
23 MR. VATTER: When they put the hogger on, our
24 understanding is that the normal air ejector radiation
25 monitor was not able to monitor that release point. I'm

1 interesting in knowing whether you're aware of what
2 radiation monitoring of that release was accomplished.
3 MR. COLOMB: I guess I can't say that I know at
4 that point what they were using for release rate monitoring.
5 No, I do not know that.
6 MR. VATTER: Are you confident that that was a
7 monitored release?
8 MR. COLOMB: I wouldn't make that statement
9 without going back and talking to the operators again.
10 MR. VATTER: Okay. So to your knowledge that
11 hasn't been question to where somebody asked and it was
12 resolved?
13 MR. COLOMB: I guess I can say that, if it was
14 questioned, I haven't heard the answer, although I did hear
15 in an interview somebody make a statement about a skid
16 working, but I'd have to go back and look at who said that
17 and what was --
18 MR. VATTER: A skid working?
19 MR. COLOMB: Somebody was a skid working before
20 they -- I'd have to go back and look. I'd hate to make
21 that statement without going back.
22 MR. VATTER: Okay.
23 In the log, they started a second condensate pump
24 at 7:38, noting that the operating condensate pump, which
25 was the A pump -- was that P1A?

1 MR. COLOMB: Yes.

2 MR. VATTER: And then P1B was the second one.

3 I was wondering if you had any feel for why that

4 might have been a problem, that they had to have two

5 condensate pumps.

6 What I think might have happened is that the

7 condensate reject valve to the condenser opened with the

8 loss of control power to the condensate system and that the

9 valve was not reclosed at a later time when power was

10 restored and that there was a rather large amount of

11 condensate flow as being diverted back to the condenser.

12 MR. COLOMB: My understanding of that is we saw --

13 they saw a high standard temperature on the one pump. I

14 believe they recognized the fact that it was a due to a high

15 flow condition and started the second condensate pump.

16 MR. VATTER: I wondered whether they should have

17 been reducing the amount of flow on that running pump?

18 MR. COLOMB: What I can't say is what was

19 happening with the min flow valve. You mentioned that you

20 thought a valve had failed opened and not been reclosed,

21 that valve normally acts automatically, or rather it should

22 have been acting automatically if the power was restored.

23 MR. VATTER: So if the pump had a high flow

24 condition, we don't know exactly where all that flow was

25 going?

1 MR. COLOMB: I can't say -- I can't say where all
2 that flow was going.
3 MR. VATTER: I can't either, I guess. I'm just
4 trying to guess a little bit and try to figure that out.
5 MR. COLOMB: I know that they saw a high standard
6 temperature on it. I believe it was related to high flow
7 when they started the second pump to provide the additional
8 flow.
9 MR. VATTER: We also noted in the log that the
10 stack GEMS, that gaseous effluent monitoring system was
11 inoperable at 8:05, but apparently that had been inoperable
12 for a long period of time or from the start of the event.
13 MR. COLOMB: I know it was inoperable, I know we
14 were tracking why that was a problem. We're looking into
15 why that was a problem. I can't say it was inoperable
16 before the event without looking back, I guess.
17 MR. VATTER: I didn't mean to imply that I thought
18 it was. My perception was that it became inoperable at the
19 start of the event?
20 MR. COLOMB: Yes, I believe that's true.
21 MR. VATTER: And that they recognized that it was
22 inoperable at 8:05 and declared it such?
23 MR. COLOMB: Right. That sounds correct.
24 MR. VATTER: Now, I'm not sure what all different
25 ways you have of monitoring a release path from the

1 condenser, but if the condenser air rejecter is not
2 available, if that rad monitor is not available and the
3 stack GEMS is not available, is there some other radiation
4 monitor in that release path that we'd be able to see?
5 MR. COLOMB: No. I don't believe there is. I
6 think that if the GEMS is inoperable, then the next method
7 is grab samples.
8 MR. VATTER: Okay. So possibly there was an
9 unmonitored release at 7:30 when they put the hoggers on
10 service? I don't know how important that is, but we're
11 trying to understand that.
12 MR. COLOMB: Um hm. I understand.
13 MR. VATTER: Who do you think I ought to talk to
14 to get a more clear perception of that release path and how
15 it might have been monitored?
16 MR. COLOMB: Do you what to know specifics about
17 what somebody saw in the event or do you want to just know
18 technically how the release path is monitored?
19 MR. VATTER: I would like to know how it was
20 monitored during the event because we don't -- or I don't
21 see right now a way that it was monitored. I would like to
22 know that it was being monitored.
23 MR. COLOMB: Yeah. Well, we probably have to look
24 back to the sequence and just verify the monitors. I would
25 have to say if the GEMS -- if the GEMS was inoperable and

1 the mechanical vacuum pumps were started that that was
2 probably an unmonitored release.
3 MR. VATTER: Okay. We'll need to research that a
4 little bit more.
5 MR. COLOMB: Okay.
6 MR. VATTER: Mike, those are all the questions
7 that I had for you. Is there anything that -- do you have
8 something, Walt?
9 MR. JENSEN: Yeah. I might as well ask a few.
10 Let's see, we know that at the first of the event that there
11 were two RHR trains out of service and wondering what your
12 policy was with regard in having two trains of safety
13 equipment out of service and how long they had been out of
14 service?
15 MR. COLOMB: We typically do work and preventative
16 maintenance and systems by division. It is not -- it's the
17 exception we have two out at once, but we would only do that
18 -- in other words we separate it so that if we're working on
19 division two, everything in division one and division three
20 is operable. That's how we schedule and perform our
21 maintenance and preventative maintenance and surveillance
22 activities.
23 MR. JENSEN: Do you have any effort not to have --
24 to have no more than one out of service or is this an
25 unusual circumstance to have two trains out of service at

1 the same time?

2 MR. COLOMB: I guess I would have to go back and

3 look at our history. I can say that we typically -- we

4 typically work on just one train at a time, but I can't

5 that's it's unusual that we would be working on one MOV and

6 you know if the work was scheduled, to be working on both

7 trains in a division.

8 We don't have any policy that says don't work on

9 both trains at once. We go by division and we wouldn't

10 unnecessarily schedule a train out unless we had something

11 to do on it.

12 MR. JENSEN: Okay. There was a water hammer

13 reported in the RHR system when the valve going to the rad

14 waste system was opened, I believe that was a result of

15 perhaps opening the valve too fast, done locally, has that

16 been a problem in the past? Have you had trouble with that

17 particular valve in the past?

18 MR. COLOMB: To my knowledge that has not been a

19 problem in the past.

20 MR. JENSEN: Okay. Have you had water hammers in

21 the RHR system in the past that you're aware of?

22 MR. COLOMB: Not that I'm aware of, no.

23 MR. JENSEN: There was difficulty, I believe, in

24 initiating the water cleanup system that is tripped of when

25 it's first started up and I believe that was laid to a

1 confusing procedure. Have you had trouble initiating water
2 cleanup before?
3 MR. COLOMB: We have had -- we have had problems
4 with our cleanup system, specifically the delta flows in the
5 cleanup system that were very sensitive to system
6 transients. We have had many problems with those. I can't
7 -- I'd have to look back to say that we have had this
8 specific condition. I don't think we've had this specific
9 condition before, but we have had many problems with those
10 delta flows during system configuration changes, if you
11 will; starting up, shutting down, going from one load to
12 another.
13 MR. JENSEN: And have you had trouble with water
14 hammer in the cleanup system before?
15 MR. COLOMB: I don't remember having a problem
16 with the water hammer before.
17 MR. JENSEN: Let's see, there was difficulty noted
18 with controlling the RCIC system and automatic control. Has
19 this been a long standing problem and what efforts have been
20 made to fix the automatic RCIC control?
21 MR. COLOMB: I believe we have had problems with
22 it in the past and typically what we do is on a restart
23 after any RCIC maintenance, we will run the turbine which is
24 a tech spec surveillance and tune the controller while RCIC
25 is running.

1 MR. JENSEN: Okay. There was indeterminate valve
2 position indication on the RCIC injection valves, valve
3 number 156 and 157, has this been a problem in the past?
4 MR. COLOMB: We have had problems with indications
5 and testable checks in the past, yes. RCIC -- including
6 RCIC. We have had problems with that.
7 MR. JENSEN: And this is something that occurred
8 and has been corrected as it occurred?
9 MR. COLOMB: Yes. Correct. It's had corrective
10 maintenance and modifications to the limits switch
11 configurations, both. To some of them, I can't say
12 specifically which ones.
13 MR. JENSEN: Okay. There were a couple of safety
14 valves that were leaking at the start of the event, do you
15 know how long these have been leaking and was there a
16 corrective action plan to fix the leak?
17 MR. COLOMB: They had been leaking -- if I said
18 how long it would be a guess, but they've been leaking for
19 quite a while, and yes, there are corrective -- there's
20 corrective action paperwork to fix those in refuel outage,
21 take those out and replace them in the refuel outage.
22 MR. JENSEN: What is your refueling outage
23 scheduled to be?
24 MR. COLOMB: I believe it's scheduled to start the
25 end of February of 1992.

[Pause.]

MR. JENSEN: I think that's all I have, Bill.

MR. VATTER: Mike, is there anything that you think that we haven't gotten about the event that we ought to know about?

MR. COLOMB: I guess I presume that all the information we've gotten in our RAP-6 we've shared with you, so I have to say, no, that I think you probably have all that.

MR. VATTER: What was that acronym?

MR. COLOMB: We have a reactor analysis procedure that does an evaluation of a scram. And I know we developed a sequence of events and I'm pretty confident that we've shared that with you, so I assume that --

MR. VATTER: I assume you mean the sequence of events?

MR. COLOMB: Then I think you know everything that we know about it.

MR. VATTER: Okay.

[Whereupon, at 4:30 p.m. the taking of the interview was concluded.]

REPORTER'S CERTIFICATE

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

In the Matter of:

NAME OF PROCEEDING: Interview of Mike Colomb

DOCKET NUMBER: (Not applicable)

PLACE OF PROCEEDING: Scriba, New York

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.

Mark Handy

Mark Handy
Official Reporter
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