

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

1 In the Matter of:

2 IE TMI INVESTIGATION INTERVIEW

3 of

4 John P. Donnachie
5 Radiation Chemistry Technician
6
7
8

9 Trailer #203
10 NRC Investigation Site
11 TMI Nuclear Power Plant
12 Middletown, Pennsylvania

13 May 17, 1979
14 (Date of Interview)

15 July 3, 1979
16 (Date Transcript Typed)

17 214, 215 and 216
18 (Tape Number(s))
19
20
21

22 NRC PERSONNEL:

23 Gregory P. Yuhas, Radiation Specialist

24 Mark E. Resner, Investigator
25

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1 RESNER: The following is an interview with Mr. John P. Donnachie. Mr.
2 Donnachie is employed with the Metropolitan Edison Company at the Three
3 Mile Island Facility and he is a Radiation Chemistry Technician. The
4 present time is 11:12 p.m., eastern daylight time. Today's date is May
5 17, 1979. This interview is being conducted in Trailer 203 which is
6 located just outside the south gate to the Three Mile Island facility.
7 The individuals present for this interview are Mr. Gregory P. Yuhas.
8 Mr. Yuhas is employed with the Nuclear Regulatory Commission and is a
9 Radiation Specialist with Region I. Moderating this interview is
10 myself, Mark E. Resner. I am an Investigator with the Office of Inspector
11 and Auditor, U.S. Nuclear Regulatory Commission Headquarters. Prior to
12 taping this interview, we discussed with Mr. Donnachie a two page
13 document which advised him of the purpose, scope and authority with
14 which the Nuclear Regulatory Commission has to conduct this investigation.
15 In addition, it advised Mr. Donnachie that he is entitled to a repre-
16 sentative of his choice at this interview should he desire one. In no
17 way is he compelled to talk to us should he not desire to talk. On the
18 second page of this document, Mr. Donnachie has answered three questions
19 which I will state.

20
21 RESNER: Do you understand the above? Mr. Donnachie has checked yes.
22 Is that correct, Mr. Donnachie?

1 DONNACHIE: Yes sir.
2

3 RESNER: Question 2. Do we have your permission to tape this interview?
4 Mr. Donnachie has also checked yes. Is that also correct, Mr. Donnachie?
5

6 DONNACHIE: Yes sir.
7

8 RESNER: Question No. 3. Do you want a copy of the tape? Mr. Donnachie
9 has checked yes. Is that correct Mr. Donnachie?
10

11 DONNACHIE: Yes sir.
12

13 RESNER: We will provide you with a copy of the tape at the conclusion
14 of the interview. At this time I will ask Mr. Donnachie if he will
15 briefly state his educational and job experience in the nuclear field.
16

17 DONNACHIE: I have been employed for Met Ed since 1970. I have been a
18 Radiation Chemistry Technician since 1974--two years as a Junior Technician
19 and the last three and a half being a Senior Radiation Chemistry Technician.
20 My educational background includes high school (graduate) and two years
21 of college at Penn State University (non grad).
22

23 RESNER: Thank you Mr. Donnachie. Now for the questioning of Mr.
24 Yuhas.
25

1 YUHAS: For the record, Mr. Donnachie prefers to be called Pat rather
2 than John. So in the course of this interview I will be referring to
3 you as Pat.--
4

5 DONNACHIE: Okay--
6

7 YUHAS: The way we are going to do this is, I am going to ask you to
8 give a description of how you became aware of the incident, when you
9 came to work, and ask you to give us a general description of what you
10 did during the first three days. That would have been Wednesday, the
11 28th through midnight, Friday the 30th. At the conclusion of your
12 chain of thought, I will come back and ask you some specific questions
13 about your involvement and what jobs you did. Then I will give you an
14 opportunity to discuss any comments or criticisms (complimentary or
15 not) regarding the health physics program here at Metropolitan Edison.
16 So if would you begin by describing how you learned of the incident and
17 what you did the first 3 days?
18

19 DONNACHIE: Okay. The first night of the incident I was here. I had
20 come to work 11 to 7 on the night of the 28th, and the reason I came in
21 was they were a man short and they contacted me by telephone and asked
22 me my desire to come in which I came in that night. During the course
23 of the evening, we went through our normal procedures in HP as far as
24 doing the routine surveys, reactor entry surveys into Unit 2 and Unit
25

1 1. We took a Unit 2 entry survey somewhere around 2:00-2:30 that night
2 and we counted the results on a Ge(Li). The results were routine and
3 nothing out of the ordinary. The results being it was safe to go in
4 the reactor building access at that time. At roughly between 4:00-4:30
5 the announced turbine trip followed by reactor trip in the period of a
6 minute; whereas, we have two surveillances that we have to satisfy
7 being the offgases from the condenser and also the dose equivalent of
8 iodine surveillances. I took the condenser back from exhaust proximi-
9 mately 5:00 where David Zeiter and Tom Davis were in chemistry that
10 night and they were taking care of the dose equivalent of iodine results.
11 They had reactor coolant on recirc for approximately an hour, hour and
12 a half, going into 6:30 or a quarter of seven before they pulled up the
13 sample. The sample I had pulled off the conduct condenser vacuum pump,
14 somewhere around 5:00 was counted on the Ge(Li) and results were xenon --
15 I can't give you a number right now because I don't remember what it
16 is -- but that was no where near the limitation set forth from our tech
17 spec limits. So at that time we felt it was still routine. We were
18 getting no input from operations as far as general mode of operation
19 going into the ... prior to the accident after the trip had occurred.
20 When we first learned that we had a nature that was serious was somewhere
21 between 6:30 and 7:00. Well, excuse me, let's go back a little further
22 till about 5:30. Mike Janouski was notified by operations to resample
23 HPR 227 which is the atmosphere monitor off the Unit 2 reactor building.
24 He pulled a particulate sample off of that and he got water out of the
25

1 lines which he said contaminated him. I think he had his hands slightly
2 contaminated due to pulling the sample. At that time he came back from
3 the lab and he informed me he thinks that Unit 2 had big problems
4 meaning there was a lot of steam in the building and it was following
5 through into the monitoring systems. At that time we saw no levels
6 building up in the lines coming over to Unit 1 sampling. Then Dick
7 Dubiel had come in somewhere around 6 o'clock and we were discussing
8 whether we were going to make a reactor building entry, being that we
9 still did not know the seriousness of the problem. So Mike Janouski
10 and I proceeded over to Unit 2 auxiliary building taking Scott Air
11 Packs over to make a reactor building entry somewhere around 7:00. At
12 about 20 minutes to seven, we discussed that we had only 20 minutes
13 left to go until our shift ended and we could get out. So by the time
14 we got from the Unit 2 reactor building to Unit 1, the problem seemed
15 to increase at that time. We walked into Unit 1 HP lab and heard an
16 area monitor go off out in the hot machine shop which is adjacent to
17 the nuc sampling room. Lines from Unit 2 come directly through the hot
18 machine shop into the nuc sampling room. So we went out and took an
19 E-520, checked the area and we saw 40 mR. There is a period of time of
20 a couple of seconds till we tried to assess where it was coming from
21 and we more or less looked up and noticed the lines, and right away I
22 ran into the unit nuc sampling room and checked the RC letdown lines
23 coming in. At that time the reading was somewhere around 300 mR which
24 is somewhat high for the RC letdown Unit 2. So I went back out and
25

1 checked out the area of the hot machine shop and the levels had increased
2 to somewhere around 200 mR during a period of one minute and a half.
3 At that time we evacuated the security guard out of the area and went
4 back in the nuc sampling room and rechecked the lines coming in, because
5 there we could reach the lines to get an accurate description of the
6 radiation. At that point the radiation levels had gone up to somewhere
7 close to an R. So at that point Dick Dubiel got on the page system and
8 called George Kunder and stressed that we have a problem, what was
9 going on, and we are seeing these levels down here in the nuc sampling
10 room. Somewhere around 6:30, I believe, just talking to Dave Zeiter,
11 they had pulled the RC letdown from Unit 2 for the dose equivalent
12 iodine. They had done a .1 in 9 ml of water dilution to count on the
13 Ge(Li) which is a routine dilution and found that it was too hot to be
14 counted at our highest geometry on the Ge(Li). It showed up as about
15 38 percent at that time so they did not count it at that time. Mike
16 Janouski and I then proceeded from the Unit 1 area over to Unit 2 aux
17 building. When we went over to the aux building, Terry Daugherty, who
18 is a Unit 2 operator, had said that there is water coming up through
19 the floor drains in the aux building. I had asked him where did he
20 think it was coming from. He said it is probably coming up from overflows
21 on the tanks. We asked him are you sure it is coming from the overflows
22 and he said well he is not sure where it is coming from at that time.
23 So we had no idea at that time that it was water from Unit 2 containment
24 so we proceeded further into the building. We still had no concern for
25

1 the accident whereas we did not have any interface with Unit 2 operations
2 as far as any building monitors going up or down. So then I had checked
3 HPR-227 -- the inlet coming in HPR-227 -- and we had checked that prior
4 about an hour before and it was reading approximately 10 mR which we
5 thought was fairly high coming into that monitor. This is right around
6 the time we were beginning to suspect that we had an out of the ordinary
7 trip. So then I had checked it a second time and I used an R02 and put
8 it in on contact with the inlet line coming into HPR-227; it had read
9 50 mR. I had it on there for approximately 10-15 seconds and the scale
10 started going up and finally went off scale with a 50 mR range. So
11 then I went to the 500 mR range and it was still steadily climbing. So
12 I went to the 5 R range and it finally settled out at 1 R and this all
13 occurred in a period of about 45 seconds. At that point I stepped
14 back -- you see -- it was a monitor malfunction and readings came down
15 to ordinary levels and then I had put it back on the line to double
16 check and it immediately went back up to 1 R. At that time I looked
17 down and I saw some exhaust coming out off of the monitor and at that
18 point Mike Janouski ran by and said, "Let's get the hell out of here,"
19 which we did. We ran out, evacuated the building, and got all the
20 nonessential personnel out. We had a few technicians in there taking
21 air samples which, at the time Mike Janouski went by, he had got the
22 results of one of the air samples that Carl Mayers had taken briefly
23 around 7:00-7:05 which had read high. To this day I don't know what
24 those results were. So we evacuated the building and at that point I
25

1 walked into the shower room where there was a frisker to check myself
2 to see if I was contaminated. As I walked in the shower room I got
3 within 3 feet of the frisker and she went off scale on the times one
4 scale. Further checking of my body I found that I had anywhere from
5 10-15,000 counts per minute on the whole body and on my clothes. And
6 what I did I just disrobed and took a shower and I came clean from what
7 I could see on the frisker. Whereas I worked basically around the ECS
8 station helping out for the next 3-4 hours because I did not have my
9 personals to work with. That is about all I remember from that day.
10 Then somewhere later that morning I had left the site and got all my
11 personals straightened out, cleaned and washed. Those that I could not
12 clean I disposed of and exited the site to the 500 KV sub where I had
13 myself and the guard checked out. We were checked out clean and I
14 proceeded home. The next night we came in -- we came in Thursday the
15 29th -- for the 3 to 11 shift. We relieved Ken Berkholder and Jim
16 Dukes, two radiation chemistry technicians who are on team Alpha onsite
17 survey team. Tom Pyke who is the Junior Technician and myself relieved
18 those two and proceeded to take onsite readings on the perimeter fence.
19 Readings being highest over by the mechanical draft cooling tower in
20 Unit 2 which happened to be where the wind was shifted that day --
21 anywhere from 9-15 mR the readings we were getting beta gamma. Then 2
22 hours later the wind had shifted south and we were getting that had a
23 GE nine area down here. Approximately 11:00 we were called into the
24 Unit 1 control room and we were told to go down and cut an RC sample
25

1 that was drawn earlier in the day by I think, Ed Houser. I am not
2 sure -- I know he was in there drawing samples. But there was a 1 ml
3 Unit 2 RC letdown sample in a 60 CC vial which they had wanted cut in 5
4 separate samples to be cut to less than 1 mR for counting purposes. So
5 we were told that the sample was reading 4 R. When we went down, I
6 checked the sample again before we even started work on it and it
7 turned out the sample was reading 11 R. We cut the sample in 5 equal
8 portions and we cut it by a factor of 10 to the 8th power before we
9 could get it down to less than 1 mR. Those samples then we put in the
10 safe which is located in our count room in the Unit 1 HP lab. Later
11 that night we assumed duty in Unit 1 control room area and for briefly
12 for an hour - hour and a half we went back over to the observation
13 center. We ended our shift at 7:00 Friday morning. We worked a double
14 shift that night. You want to go up to Friday night into Saturday?
15

16 YUHAS: Did you come back in on Friday?
17

18 DONNACHIE: We came in on Friday night at 7:00, okay. When we came
19 back in -- when I came back in -- I was told to set up a trailer out at
20 the north gate and set up some type of card system so we could keep
21 track of personnel exposures. I, myself and three Philadelphia Electric
22 radiation technicians were responsible for that area. We were out
23 there approximately 3 hours trying to set up the trailer and I was
24 pulled off the trailer duty and brought into the Unit 1 control room
25

1 where I came in and worked with a member of the NSS crew for the rest
2 of the night taking air samples, doing area surveys in the turbine
3 building, and roughly watching what kind of readings were coming in
4 from the offsite teams that is basically what I did all night.
5

6 YUHAS: Thank you very much. Excellent recall considering the amount
7 of time that has passed since the night of the 28th, 29th and 30th.
8 What I am going to do now is go back and ask you some rather specific
9 questions regarding what happened. To start off with, will you just
10 briefly go over the names of the rad chem techs that were on duty that
11 night and what their assignments were?
12

13 CONNACHIE: Okay, there were four of us. There was myself and Mike
14 Janouski. We were the senior tech -- no we were not the senior -- I
15 was there in place of a junior that night just filling in for a body.
16 The normal shift that night was Mike Janouski, Dave Zeiter, who are 2
17 senior technicians, and then there was Tom Davis who was a junior
18 technician. We had responsibility for the 11-7 shift. Mike Janouski
19 and I were responsible for HP and Dave Zeiter and Tom Davis were respon-
20 sible for chemistry.
21

22 YUHAS: Prior to the Unit 2 reactor trip, can you describe the conditions
23 in both Unit 1 and Unit 2?
24
25

1 DONNACHIE: Conditions in both Units 1 and 2 were normal conditions.
2 Unit 1 was shut down and we had just completed refueling operations and
3 there was just a matter of a couple of days before we were going to
4 back up. We were in the process of cleaning up the system. The reactor
5 coolant system was up a point where it was too dirty to go back up to
6 power. Unit 2 was somewhere between 90 and 100 percent. I had recalled
7 that it was somewhere around 100 percent power at the time of the trip.
8 So operations were at full power and operating normally before the
9 trip.

10
11 YUHAS: Are you fairly sure that you pulled the VAR-748 sample at 5:00?
12

13 DONNACHIE: It was around 5:00. I would say between 5 and 5:30 that I
14 pulled the 748 sample.
15

16 YUHAS: The sample results for the Unit 2 condenser vacuum pump which
17 would have been VAR-748 indicate the sample was at 05:42. Do you know
18 if that was the time the sample was counted or the time you took the
19 sample?
20

21 DONNACHIE: I would presume that it's probably the time it was counted.
22

23 YUHAS: Do you know if Mr. Janouski went alone to HPR-227 to pull the
24 particulate and the cartridge at 0530?
25

1 DONNACHIE: To my knowledge it did.
2

3 YUHAS: You had not seen Dick Dubiel there at that time?
4

5 DONNACHIE: No.
6

7 YUHAS: The decision to not make the reactor building, reactor contain-
8 ment entry per Unit 2, was based on the fact that you only had 20
9 minutes left in the shift not the fact that you had surmised that Unit
10 2 was in big trouble HP wise?
11

12 DONNACHIE: Right. At 20 minutes of seven we were still in the situation
13 where we figured it was a routine trip. We knew we had somewhat of a
14 problem and we said that more or less in jest to begin with but I think
15 if it came down to the point where if we had to go in we probably would
16 have gone in. The things being the way they were at the time we had
17 not assessed the whole realm of the situation. I think we probably
18 would have went in. And it is just lucky we didn't based on -- I
19 think -- the reason we did not go in is that we got the word that
20 building pressure was going up and that changed our minds of going in.
21 Dick Dubiel more or less had a handle on the final decision on going
22 in. But we were going to make the entry somewhere around 7:00 and 7:30
23
24
25

1 because we were waiting for the oncoming shift for coverage so we could
2 spare the manpower to go in, but at that time, between 6:30 and 7:00,
3 that's when the monitors started screaming and we hunted other things.
4

5 YUHAC: Can you describe the airborne activity monitor located in the
6 nuclear sample room?
7

8 DONNACHIE: It's a Victoreen monitor. At the time it was in there I
9 don't even think it was even functioning because we have had problems
10 with that monitor via motors burning out, the alarm sensitivity on
11 that, and the gas channel. We had been trying to get it increased
12 because of the xenon and at the time, I can't be sure on it, but I am
13 pretty sure I imagine that was not even in operation. You can check
14 the operations checkoff list for that period of time because their
15 operators are supposed to check that monitor whether it is in service
16 or out of service every shift.
17

18 RESNER: At this time we will break the tape. It is now 11:36 p.m.,
19 eastern daylight time.
20

21 RESNER: This is a continuation of the interview. Mr. Donnachie, the
22 time now is 11:37 p.m., eastern daylight time.
23
24
25

1 YUHAS: You mentioned that the air sampler that is supposed to be in
2 operation in the nuclear sample room was probably not in operation, and
3 one of the reasons you mentioned was because of noble gases from the
4 reactor coolant samples set it off. Are not the nuclear sample sinks
5 inside the hood?

6
7 DONNACHIE: Uh-huh.

8
9 YUHAS: Do you know the linear flow rate in feet per minute into the
10 hood window?

11
12 DONNACHIE: No I don't.

13
14 YUHAS: Is there a perceptible inward flow when the reactor coolant
15 samples are drawn, such that the gases could go up the hood rather than
16 out to the room?

17
18 DONNACHIE: There is a negative flow into the sample hood itself. We
19 have taken Marenelli samples in there during actual sampling operations
20 which we have identified the gas as xenon-133. Another thing I had
21 forgot to mention about the monitor is that the monitor sits below the
22 reactor coolant sample lines. We felt also that on the gas channel the
23 interference was also coming from the radiation coming off the lines
24 themselves causing it to alarm not necessarily the noble gases in the
25

1 atmosphere. That is another reasoning for increasing the set points.
2 We only had that problem with the gas channel itself. Normally we had
3 two other channels being particulate and charcoal channels and we would
4 have problems with the particulate channel but that was based on a
5 build up factor in which it had changed the particulate that more or
6 less come down to normal levels.

7
8 YUHAS: Are the sample lines shielded inside the nuclear sample room?

9
10 DONNACHIE: No, Unit 2 or Unit 1 sample lines are not shielded.

11
12 YUHAS: Okay, When you initially heard the alarm from inside the hot
13 machine shop, you stated you took an E-520 and you measured 40 mrem per
14 hour on the Unit 2 sample lines inside the nuclear sample room. Can
15 you describe which lines you measure with the outlet of the cooler the
16 inlet of the cooler? The lines?

17
18 DONNACHIE: The lines we measured at 40 mr was outside the hot machine
19 shop -- that was general area. We were still approximately 6-10 feet
20 away from the lines being that they run about 10 foot above the floor.
21 When we had checked the lines inside, we had checked the inlet to the
22 cooler -- inlet being 15 feet from the cooler where it initially comes
23 through the wall penetration and makes a right angle down the room.
24 That is where I checked the lines at the time.

1 YUHAS: And that's where you got the 300.

2
3 DONNACHIE: That's where I got the 300.

4
5 YUHAS: Now you said that 1.5 minutes later 40 mR had increased to 200
6 millirem.

7
8 DONNACHIE: Approximately in that period of time. It seemed like a
9 minute and a half to me til the time I went in and came back out.

10
11 YUHAS: At that point you asked the security guard to leave?

12
13 DONNACHIE: Uh huh.

14
15 YUHAS: Did you check the lines at the same point when you read 1 R per
16 hour?

17
18 DONNACHIE: Yes.

19
20 YUHAS: You were back at the inlet to the coolant?

21
22 DONNACHIE: Yes.

1 YUHAS: Do you remember the discussion that you had when you related
2 this information to Dick Dubiel?
3

4 DONNACHIE: Not approximately, we had just informed him of the readings.
5 Dick Dubiel was in the general area at the time we had checked. He was
6 with us at the time we checked outside that machine shop. Mike Janouski,
7 myself and Dick Dubiel had gone out into the area to check out the
8 monitor. We had checked and I had gone into the nuc sampling room and
9 had relayed the message to him that the lines in there were reading
10 high but by the time I got back out they had come up further yet. And
11 the second time I checked the nuc sampling room I relayed that informa-
12 tion to him and at that time it seems to me he got on the page phone to
13 George Kunder, Unit 2 operations.
14

15 YUHAS: Do you know if the Unit 2 reactor coolant sample was still
16 recirculating at the time that you made these measurements?
17

18 DONNACHIE: To my knowledge, I think it was. Based on the readings
19 increasing I would be assured that it was.
20

21 YUHAS: Did anyone request that either the motor operated valve be
22 secured locally to secure recirculation flow or did someone call the
23 control room and suggest that they secure from control room?
24
25

1 DONNACHIE: I am not sure. I think later on somewhere around between
2 7:00 and 8:00 the word was spread to shut down the RC letdown system --
3 sampling.
4

5 YUHAS: You mentioned a sample that Mr. Zeiter was working on and that
6 it had a significant dead time on the gamma spectrometer. Did anyone
7 measure the raw sample, the undiluted sample, with the dose rate instrument
8 to determine how hot it was?
9

10 DONNACHIE: I have no idea on that. I was not involved with that at
11 that time.
12

13 YUHAS: After being informed by Mr. Daugherty that water was coming up,
14 I assume on the 281 elevation of the auxiliary building, did either you
15 or Mr. Janouski investigate further as to this water problem?
16

17 DONNACHIE: At that time we didn't. We were going down the hallway in
18 the 305 level and the readings along there were coming up. We had
19 noticed that the readings going into the cubic vault to the makeup
20 tank. There is a set of hydrogen lines in there where they were feeding
21 the hydrogen overpressure into the system from that point. It was a
22 temporary setup. Those lines were somewhere approximately 10 R. As
23 you are walking down the corridor we noticed that the readings jumped
24 up outside that door and we investigated in that doorway there. We
25

1 found the lines -- the hydrogen lines -- into the core were reading
2 very high. When we had started to come out of the building, we had
3 told Terry Daugherty and any other operators that he had known of in
4 the building at the time to evacuate.
5

6 YUHAS: Can you describe a little more about these hydrogen lines?
7 This is the makeup tank room, right?
8

9 DONNACHIE: Right. If you go inside the cubicles down there you will
10 run into a three foot concrete wall before you make a left to go back
11 around the place -- secondary shielding effect. Well what happened was
12 they had two or three hydrogen bottles -- cylinders -- sitting there
13 and this is what we were told that they were using to feed into the
14 hydrogen system for the overpressure of the building because the opera-
15 tors had to change these cylinders at a set frequency based on their
16 pressure decreases. They were checked once a shift by operations.
17

18 YUHAS: Now you said hydrogen overpressure in the building. Are you
19 sure you don't mean covered gas pressure in the makeup system?
20

21 DONNACHIE: Well, that's basically what they use. It feeds into the
22 makeup tank. Right, and just going further into the reactor core that
23 is basically where the hydrogen overpressure is the source from the
24 makeup tank gas station.
25

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1 YUHAS: When you took these measurements on the lines, is it possible
2 that you were reading streaming coming from the makeup tank? Is there
3 a penetration where the lines go through, could that have been what you
4 were reading?
5

6 DONNACHIE: It's possible. The only thing that we checked on was just
7 in that general area of the bottles themselves which is maybe a 2
8 square foot area. We had checked it more than one time and it could
9 have been streaming but at this time I couldn't tell you what was
10 streaming or actual. I took it to read that it was off the lines
11 themselves, generally coming off the hydrogen bank.
12

13 YUHAS: The hydrogen banks are what pressure?
14

15 DONNACHIE: I don't know what those hydrogen bottles are reading as far
16 as pressure.
17

18 YUHAS: Would it be reasonable to assume that the hydrogen bottles were
19 at a pressure somewhat greater than the makeup tank?
20

21 DONNACHIE: I would assume they should have been. I can see what you
22 are getting at and it is possible it could have been streaming either
23 the possibly that the pressure levels increased in the makeup tank due
24 to the loss of coolant in the reactor and it started coming back into
25

1 the hydrogen bottles themselves. We did not think of that at the time.
2 But we knew it was a high area in that corner and we made entries into
3 that area quite frequently. We never see levels like that going inside
4 the door. There is also a letdown of liquid monitors that is in the
5 area also. We had also checked that and I remember checking that and
6 getting a high level but I can't remember what the level was to convey
7 to you.

8
9 YUHAS: The monitor we are speaking of would be MUR-720?

10
11 DONNACHIE: Yes.

12
13 YUHAS: What does the dose rate normally read in that area when you're
14 standing there in the makeup room?

15
16 DONNACHIE: Well, if you are familiar with the general layout in that
17 area when you go into the cubicle there is an outside cubicle before
18 you go into the makeup tank itself. Normally the general area there is
19 5 to 10 mR if that. Normally we don't go into the makeup tank cubicle
20 during operations unless it is absolutely necessary. It is a normally
21 locked area. We have two purification demineralizers also coming off
22 that center cubicle which are locked areas. So normally if you are
23 going into the center cubicle there where we have the haze gas analyzer,
24 the letdown monitor and the hydrogen bank there, there is no problem as
25

1 far as radiation. Now contamination wise you have some around the
2 monitor due to leakage through the small pump on the monitor -- the
3 sealed leakage. Other than that there is really no problem.
4

5 YUHAS: So on this particular morning an area that normally read 5 to
6 10 mR read how much?
7

8 DONNACHIE: Well, we didn't go into the center cubicle itself. We went
9 inside the door where the hydrogen bank was. That is as far as we went
10 and the hydrogen bank to my knowledge was 10 R, 'cause I had taken the
11 reading.
12

13 YUHAS: What instrument did you use to take that reading?
14

15 DONNACHIE: I had a teletector at the time.
16

17 YUHAS: Can you give us the best estimate of the time that you took
18 that reading?
19

20 DONNACHIE: Probably, I can give it to you within a half hour -- somewhere
21 between 6:00 and 7:00. To clarify further, let's make it between 6:45
22 and 7:15. It would be in that area.
23
24
25

1 YUHAS: When you went down 305 there in the hallway to the HPR-227, you
2 indicate you saw rapidly increasing levels off the 227 monitor. Were
3 you holding your R02 at the line, at the cartridge holder? Whereabout
4 on the monitor were you holding the R0-2?
5

6 DONNACHIE: My R02 would have come -- actually it would have been on
7 the exhaust line coming off the charcoal. Because it was right above
8 the flow meter coming off the charcoal part of the monitor. That's
9 where I got the reading.
10

11 YUHAS: So you were measuring really just the noble gases in the line
12 at that point. It should have already -- the particulate should have
13 been filtered out, the iodine that should have been accumulating in the
14 cartridge you were holding your instrument against the pipe of the
15 discharge or the return to the vent side, right?
16

17 DONNACHIE: Yes.
18

19 YUHAS: The return from that monitor to go back to the containment
20 building or the aux building?
21

22 DONNACHIE: Back in the containment building.
23
24
25

1 YUHAS: Returned to the containment.
2

3 DONNACHIE: Right.
4

5 YUHAS: You indicated that there was some gas leakage.
6

7 DONNACHIE: To my knowledge it seemed to me that there was gas leakage
8 when you looked down it may just have been the vapors coming out of
9 somewhere I coming out of the monitor which I assume there was some
10 leakage at that time. Steam leakage. It is possible that it could
11 have come out of the particulate chamber and the alternate particulate
12 sample that we have on there go on the outage site lines. Because that
13 particular night I have my doubts about that being air tight during
14 sampling so it is possible that the fumes that I had seen or the vapors
15 that were coming from the that point because I remember seeing the
16 vapors and thinking of getting out there as fast as possible after
17 taking that reading.
18

19 YUHAS: Did you request the control room shut off the pump on that
20 monitor?
21

22 DONNACHIE: No I did not.
23
24
25

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1 YUHAS: When you exited the aux building and you checked yourself out
2 and found that you were contaminated went to shower did someone establish
3 an alternate control point to the unit 2 aux building at that point?
4

5 DONNACHIE: To my knowledge no. I don't have no idea what time they
6 had isolated the aux building itself whether they had closed the door
7 or not. I think what happened somewhere going on between 8 and 9 o'
8 clock we had established isolation of the building and we went into our
9 general emergency drills outside the plant. We had sent teams out
10 somewhere around 7:30 and a quarter of 8 as soon as people came in,
11 they saw a drastic increase in the bank monitors and we knew we had a
12 problem then as far as going out to stacks so that was the reason we
13 sent the people out and I don't know the approximate time or when or if
14 they declared a general emergency.
15

16 YUHAS: Moving on to the night of the 29th, who told you or requested
17 that you go out and cut the reactor offsite monitor that had been drawn
18 by Mr. Houser and Glespe?
19

20 DONNACHE: Sid Porter.
21

22 YUHAS: Sid Porter. Do you normally respond to requests directly from
23 Sid Porter?
24
25

1 DONNACHIE: No we don't. Sid Porter is a consultant for RHP or Met Ed
2 and basically he is a very intelligent man I have a great respect for
3 him and if he was going to tell me to cut the sample and if there was a
4 good reason behind it, at that time I figured there was a good reason
5 because we had no appropriate sample to see what we had in the coolant
6 and being I myself and Tom Pyke were familiar with the techniques of
7 chemistry we were the most we were the best qualified to do it at the
8 time. So basically that is why we went down.

9
10 YUHAS: At this point, was Mr. Porter backing for either Mulleavy or
11 Dubiel?

12
13 DONNACHIE: No as far as my knowledge he was not. Being that we were
14 in that situation, and I knew that he was responsible for a lot of the
15 readings we were getting and I don't know who he was working with
16 directly but he seemed to be calling the shots at that type of situa-
17 tion so I had no question at the time.

18
19 YUHAS: How much time did you and Mr. Pyke take in planning this splitting
20 motion.

21
22 DONNACHIE: We took approximately 10 minutes. We went in, we found a
23 sample which was in the counting room beside the cave. What we did is
24 we layed it on a table outside the pen lab because the whole HP area
25

1 was now a contaminated area. And there was no reason to take that much
2 care for us where you would contaminate something else. But, why I
3 took a turn double checking the dose rate on it and as I said previously
4 the dose rate wasn't 4 R, it was 11 R, so we discussed how we wanted to
5 do what we did was we did not have any extremity badges available at
6 the time and being that we were in the emergency situation and I had
7 made the decision as far as going ahead and cutting the sample. And I
8 said Tom Pyke take the 100 ml volumetric and take a syringe and withdraw
9 the sample out of the 6 cc vial with the syringe and put it in the 1000
10 ml water and dilute it and then we will check it to see where we are.
11 So the whole evolution may have taken approximately anywhere from 3 to
12 five minutes. It takes that much time to do a dilution of that sort.
13 And he, Tom, had relayed to me that we were still somewhere around a 1
14 R range in that 1000 ml. which now we had instead of 1 ml emitting 11 R
15 we now had a bigger area as far as 1000 mls of water emitting 1 mr. So
16 we set up underneath the hood until we could obtain some more volumetrics
17 to split this. He had split that even further and this would take 1 ml
18 and do another dilution so at that time we had gotten down somewhere to
19 100 mr any where between 50 and 100 mrs and we had diluted it by a
20 factor of 100 them and we had finally gotten it down to less than 1 mr.
21 We had enough sample, we had 100 ml sample and we had made up five
22 samples of 5 mls a piece. Those are the ones that were supposed to be
23
24
25

1 sent out somewhere to get counted after ten to the 8th dilution which
2 resolution of counting techniques is 10 to the 8th dilution I don't
3 think you would get very good results.
4

5 YUHAS: Can you describe how you were dressed to perform this dilution?
6

7 DONNACHIE: We were dressed in coveralls, respirator hood and boots.
8

9 YUHAS: What type of respirator?
10

11 DONNACHIE: We had on, a I have to think about that one a bit. We were
12 in either an MSA model with the iodine cartridge or the Scott with the
13 filter cartridge which was not in charcoal. To my knowledge I don't
14 remember which types of charcoal we used.
15

16 YUHAS: Let me make an effort to refresh your memory. The two varieties
17 of iodine cartridges one was the purple foot ball shaped GMR canister
18 the other variety that became available to you on site was the green
19 coffee can style. Were you wearing a mask that contained either of
20 those were you wearing the small hand size particulates.
21
22
23
24
25

1 DONNACHIE: I am trying to recollect the type of respirator we had
2 available by the time going into the second night. It was the MSA with
3 the football type canister that is the one that we had used. I cannot
4 pinpoint down the type respirator we used that night.
5

6 RESNER: We will break the tape. The time is now twelve midnight.
7

8 YUHAS: This is a continuation of the interview with Mr. John P. Donnachie.
9 The time now is 12:03 a.m., EDT, the date is May 18, 1979.
10

11 YUHAS: Did yourself and Mr. Pyke run through a dry run prior to performing
12 this splitting of the evolution?
13

14 DONNACHIE: No we did not.
15

16 YUHAS: So you did not time, estimated the amount of dose that he was
17 going to receive to the extremities in handling the sample.
18

19 DONNACHIE: We did that, we did sit down and talk about the radiation
20 dosage.
21

22 YUHAS: This was based on the 4 r per hour number that.
23
24
25

1 DONNACHIE: No this was based on the 11 r per hour.

2
3 YUHAS: What did you estimate?

4
5 DONNACHIE: To my knowledge I what I just did was...calculated it out
6 to what it was per second that you would handle that source to the
7 extremities being that I can't remember what it was but the basic
8 calculation and I figured 11000 millirem to what it is a second we
9 based the exposure on that formula.

10
11 YUHAS: How long did you figure he was going to handle it?

12
13 DONNACHIE: He would have handled it approximately 10 or 15 seconds
14 enough to get the needle into the vial to withdraw the sample and put
15 it into that 1000 ml volumetric. It would involve 10-15 seconds.

16
17 YUHAS: Did you time, did someone have a stop watch and actually time
18 the amount of time you had contact with the sample.

19
20 DONNACHIE: No. Our health physics procedure at the time, although they
21 did apply at the time we were still aware of the physics procedure that
22 we were under. We had enough sense at the time to sit down and evaluate
23 what the situation was of possible exposure which I felt at the time we
24 were not going to have any type of overexposure handling that amount of
25

1 sample, so it was not any alarming type of sample it was not general
2 area type of radiation it was a contact of the vial and he may have
3 gotten a dose somewhere around 2-300 to the extremities.
4

5 YUHAS: When you measured this 6cc vial, what instrument did you use?
6

7 DONNACHIE: The 6 cc vial is already measured when it is shipped. It
8 is a vial that contains approximately 6 cc.
9

10 YUHAS: No. You are misunderstanding. I mean the radiation level.
11 When you got to the 11 r per hour reading off the vial containing the 1
12 ml.
13

14 DONNACHIE: We had measured that with the teletector.
15

16 YUHAS: Did you take that measurement?
17

18 DONNACHIE: Yes.
19

20 YUHAS: Can you describe as closely as possible the relationship of the
21 teletector tube on the end to the sample? Was it an end on, side on?
22

23 DONNACHIE: It was a side.
24
25

1 YUHAS: Who removed the sample, the 6 cc contained in 1 ml reactor
2 coolant samples, from the safe?
3

4 DONNACHIE: I think I did.
5

6 YUHAS: Where did you carry that to?
7

8 DONNACHIE: I carried that to a cart that was sitting outside the radio
9 chem lab door. Which is a matter of a distance of 20 feet.
10

11 YUHAS: Then Tom Pyke picked it up and carried it to where?
12

13 DONNACHIE: Well, I had taken it in to the Chem Lab and we had made our
14 entry. I had put it in the underneath the hood.
15

16 YUHAS: This would be the primary chem lab.
17

18 DONNACHIE: The primary chem lab. Then Tom Pyke had removed the sample.
19

20 YUHAS: Did he inject the syringe, withdraw the 1 ml and inject it into
21 the top of a one liter volumetric?
22

23 DONNACHIE: Um hum.
24
25

1 YUHAS: Can you describe the volumetric is it the standard volumetric
2 with the long neck?
3

4 DONNACHIE: Yes.
5

6 YUHAS: The one ml or the one liter is engraved on the neck?
7

8 DONNACHIE: Um hum.
9

10 YUHAS: How did Mr. Pyke mix that sample?
11

12 DONNACHIE: Basically, I was not cognizant of his operation. What I
13 told him to do was basically chem procedure was to fill it 2/3 full of
14 water before adding a sample to that. You add a sample to that 2/3
15 demineralizer water you mix it then you make up to the meniscus or on
16 the line and stabilizer the meniscus. That is basically how we do our
17 dilutions.
18

19 YUHAS: Is that how it was done this time?
20

21 DONNACHIE: Yes.
22

23 YUHAS: Okay. Did that 1 liter volumetric have a stopper available?
24
25

1 DONNACHIE: Yes it did.

2
3 YUHAS: Did Pyke tell you that he injected the 1 ml, through the stopper
4 in it and then shook it up?

5
6 DONNACHIE: No. Tom Pyke is a qualified chemistry tech. That is
7 standard procedure, you know. It is almost automatic. Whenever he
8 doubted anything to mix and invert the volumetrics 7-8 times to get a
9 thorough mix.

10
11 YUHAS: Was there DI water available in the hood in the primary sample
12 loop?

13
14 DONNACHIE: Yes. There was but we did not utilize that DI water. We
15 have several sources of DI water in the chem lab and the DI water
16 source we used came from the corner sink.

17
18 YUHAS: So you took the one liter volumetric out of the hood and walked
19 to the corner sink?

20
21 DONNACHIE: No, he took the one liter volumetric, filled it with the
22 demin water from the corner sink, then took it to the hood to make its
23 dilution. Then he proceeded back to the sink with the diluted sample.

1 YUHAS: And.

2
3 DONNACHIE: The other third water.

4
5 YUHAS: Was there an air sample in the room when he was running this
6 thing back and forth?

7
8 DONNACHIE: There was not.

9
10 YUHAS: Did you come in at that point and take the dose rate on the
11 full one liter volumetric?

12
13 DONNACHIE: Tom Pyke was assessing the dosage at that point.

14
15 YUHAS: So did you enter the room again?

16
17 DONNACHIE: I was in the chem lab at the time he was doing the dilution,
18 what I was doing was helping to assist him in spirts, but I was just
19 more or less coordinating items in the chem lab because it looked like
20 a hell hole to begin with. And just a matter of straightening out the
21 chem lab so we had a suitable work area so we could work in.

1 YUHAS: So you were not devoting your full attention to Mr. Pyke's
2 simple dilution?
3

4 DONNACHIE: No I wasn't. Basically when he got the first dilution he
5 was more or less on his own. Which I had my confidence in Tom that he
6 could do it without any problems. He has a year and a half --he had up
7 until that time almost two years of experience in the field and he
8 handled primary coolant numerous times. He is competent and he called
9 people in the department confident of his ability to do a dilution.
10

11 YUHAS: Did you get involved in assisting Tom Pyke return the five cut
12 samples back to the vault?
13

14 DONNACHIE: Um hum. I was making up the vials and with the proper
15 labeling and we had when he got cut down to the transfer sample measured
16 out five mls into the vial at the time he got down to less than 1 ml
17 and then we put it in the safe.
18

19 YUHAS: Did you label those vials as the cut reactor coolant sample?
20

21 DONNACHIE: Um hum.
22

23 YUHAS: Did you tell anybody where you put them?
24
25

1 DONNACHIE: Yes. We went back up and I told Sid Porter that the 5 ml
2 vials were back down in the safe and we had disposed of the empty 1cc
3 vial, or 6 cc vial in the garbage in the primary lab.
4

5 YUHAS: Is that garbage inside?
6

7 DONNACHIE: No that garbage was bagged. But the syringe the 6 cc vial
8 that the sample was in had a rubber stop cock to it and penetration was
9 made through a needle hole.
10

11 YUHAS: Was the syringe disposed of in the same garbage can?
12

13 DONNACHIE: I could not tell you what Tom Pyke did with that syringe.
14

15 YUHAS: In the turnover that evening, did you inform Joe DeMann or any
16 of his representatives where the cut samples were located?
17

18 DONNACHIE: I may have I don't remember reporting to Joe DeMann where
19 the samples were. I know I told Sid Porter and along with some operations
20 people up there also who I don't know who they were at the time but
21 more than one person was told where those samples were. Joe DeMann had
22 told you previously that I told him, it is probably a good case, probably
23 right that I did if he was there that night because I can't remember
24 telling him at the time.
25

1 YUHAS: At the conclusion of the splitting operation, do you remember if
2 he or yourself or Tom Pyke were contaminated?
3

4 DONNACHIE: Yes we were.
5

6 YUHAS: Where were you contaminated?
7

8 DONNACHIE: I was contaminated in the back of my hair. This was due to
9 me taking off my respirator and exiting the area. I had reached back
10 to take my hood off and that I did it on my own coming out and undressing.
11 I had taken a shower down at at the shower room numerous times and
12 idoine complex protein with my hair I guess and it was fixed so it was
13 just a matter of two or three days until it had decayed off to the
14 original norm.
15

16 YUHAS: What level of contamination was on your hair?
17

18 DONNACHIE: Well in the frisker it was approximately 450 counts above
19 background. Nothing real serious after shower.
20

21 YUHAS: On the night of Friday 30th, can you describe the type of hard
22 parts system you were setting up with the people from Philadelphia
23 Electric Company?
24
25

1 DONNACHIE: The hard part system we have is just a basic entry control
2 type card so we can get a handle on controlling exposures and what it
3 is a quarterly dose card and you assign the man's name and social
4 security number and assign him a dose based on whether he has AEC form
5 4 or not which that particular night we were not exposing anyone to
6 more than 1,000. That is the word I got from my supervisors. So that
7 period of time 1000 was the limit for everybody whether it was the
8 contractor Met Ed or whatever. And what had happened, it was a con-
9 fusing affair because they also had my input that I was getting from
10 NMSS man from Unit 2 who had a card system operation up there. So our
11 card system was kind of redundant to unit 2 card system but we also had
12 people that were going into Unit 1 who were not being processed through
13 Unit 2 card system and we more or less stood out there shaking our
14 heads about the foolishness of the whole affair. Because we had absolutely
15 no control at that point over anybody unless they were Unit 2 and I
16 don't have a feeling how they were operating the organization or at
17 that time. But it was a start we were trying to get a handle on the
18 whole situation. We were trying to set something that would be somewhat
19 feasible and have some kind of control over people. We were trying to
20 set up a control point at the front gate just to come over the Island
21 initially. At the time we were setting it up everybody that came in
22 filled out a card and I informed the guard at the gate anybody that
23 came out was to check with us so we could assess their exposure if any.
24 We made out a card on everybody that came in or out for a three hour
25 period while I was out there. And tried to form some filing system and

1 I was more or less training the PE technician, Philadelphia Electric
2 technician on the basics of the card. We had been using these cards
3 now for the last three years for outage purposes. And initially all it
4 is is, you put the date and RWP number, exposure in and out and supposedly
5 weekly dose. And on the back of the card it has exposures from 0 to 3
6 rem and those blocks are blocked out basically the exposures they can
7 get through out the daily weekly all you have to do is look and see
8 what they have been picking up weekly and our Adm limit is 300 mr per
9 week and you can also turn the card around and see what they have had
10 for the quarter. It is just an administrative control type of mechanism
11 we have.

12
13 YUHAS: At this point I would like you to bring forth any comments you
14 have about the radiation protection program in general at Met Ed.
15 Either prior to the incident or during the incident.

16
17 DONNACHIE: Well, I don't really know where to begin. Based on my
18 talks with people coming in from other power companies this is the only
19 thing I have to compare our HP system with. Some types some areas of
20 HP were fairly good at and others we are not. We are really slack on
21 air samples. And MPC hours were never taken to my knowledge up until
22 this accident. I think training is really haphazard and nil I think we
23 should be concerned with training the technicians we have had technicians
24 come in give an eight week HP course, which probably is one of the
25

1 better courses anyone has received in this last group of technicians
2 that came in and then there is a two week whole chemistry course in
3 Ohio which goes over very basic chemistry procedure. I was sent out
4 there two years ago and I had been a technician for 4 years and was
5 nothing I grasped out of that course except maybe a basic theory. So
6 it is a good program for someone coming in to the area but they don't
7 add on to that training. It is more or less working beside a technician
8 and having him take the time out to train you and if a particular
9 technician is not that well trained himself well you can see how the
10 training just starts to glide off to the deep end but I think management
11 although we do have Dick Dubiel and Tom Mulleavy, I feel who are two
12 very good HP supervisors, Dick Dubiel being well versed in the science
13 but the problem is we don't he is so tied up in paper work you can't
14 transmit his knowledge through the training system to the technicians
15 and the foreman although if you are the more qualified then I would
16 grant you for any type of answer basically the whole bunch if I had a
17 problem I would try to research it myself before I wait to get an
18 answer usually you do not even get an answer on a particular problems.
19 You have to research it out yourself. You have to be a diligent tech-
20 nician in order to learn what to do with the little bit of training
21 they give you. We have a six week rotation and six weeks is maybe
22 training week where initially when we went on the training system it
23 worked for approximately 3 quarters of a year. And then it was just a
24 matter of reading through a simple procedure which is like a text book
25

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1 type of thing where your foreman would come up and say okay read this
2 procedure and that is it and it was nothing that ever went into any
3 theory or science, body burns or anything like that. It was just
4 production HP. It was basically the way the program runs around here.
5 I think our safety limit just to give you an example, I was down in the
6 office a few days ago requesting a revised copy of personnel decontam-
7 ination. Our procedure which is I think 16-12 for personnel decontamination
8 is based on nasal swabs whether it is 5000 dpm, 10,000, 50,000 each
9 figure there deems a certain criteria taking care of who ever is involved.
10 The skin contamination as far as fixed is unclear. It is not in that
11 procedure. When a man comes in he has skin contamination and you don't
12 see his nasal passage you have no guideline to go on. That is what I
13 was trying to stress to those people, I said well there is a revised
14 addition to that and I said well where is it at. Well, we will get
15 back to you. This is a classic I am sure you have heard that but I
16 asked another engineer who is a technical support to our department and
17 we have a point 4 fixed guideline for tools and equipment. I had asked
18 him that night what is fixed the point 4. I said that is fine for
19 material equipment but you are talking about a human being and he
20 shrugged his shoulders. It is probably a viable response from these
21 people and you can see it that there put under the gun. You have a lot
22 of pressure and a lot of forms data that they have to mass produce and
23 they just don't have the time for any suitable training and you have so
24 much going at one time where if we are short of people for one thing
25

1 and it reflects on the job. We have numerous people coming through and
2 who were contaminated. They were going out through the front door and
3 I felt they should not have been going out there. Based on the accident
4 that is the worst contamination I saw anywhere in this plant since I
5 have been here. People were that contaminated that they were letting
6 going home and the one man was due in on a job down in the RC evaporator
7 one night and it was a hazardous job to begin with and they had Unit 2
8 water in the feed tank of the RC evaporator and they wanted to change
9 the diaphragm on the valve, there was no isolation to the valve and the
10 line was coming out of the bottom of the feedtank and through a 1 foot
11 piece of pipe in the side and went into the pump suction. There was
12 absolutely no isolation and I questioned the RWP. And Joe DeMann was
13 there that night and I said we can't go into do this job there is no
14 isolation on this tank. I was not that familiar with the job to begin
15 with. So the man involved was Dave Kimball. We had set down a set of
16 prints to try to find the isolation because he was not sure and he
17 determined that there was not. So I explained this to Joe DeMann and I
18 said I was not signing the RWP to authorize the job. Joe DeMann was
19 not signing the RWP so then the shift foreman came down and said he had
20 changed the diagram before and had drained one third of the tank. So I
21 said well how much water did you get out and he said oh, not too much.
22 So it kind of baffled me and Joe DeMann got on the phone to his supervisor
23
24
25

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1 who is Tom Mulleavy and Tom Mulleavy has a tendency to agree with
2 Operations and everybody else and we don't get that much support if we
3 have a legitimate reason to bitch.
4

5 RESNER: Excuse me, at this time we have to break to change the tape
6 12:27 a.m.
7

8 RESNER: The present time is 12:28 a.m., the date is May 18, 1979.
9 This is a continuation of the interview of John Donnachie.
10

11 DONNACHIE: Okay then back to the RC vap situation after Tom Mulleavy
12 had authorized the use of the RWP we went ahead and did the job in wet
13 suits, cotton coveralls, double boots, double gloves, Scott air packs.
14 That is what I felt we needed for the job. I had put on the requirements
15 on the RWP and the last course of the RWP was to sign it. Which I had
16 the option of signing it and I refused that option and as I said prior,
17 Joe DeMann had refused it and went to Tom Mulleavy's level for author-
18 ization. So we had proceeded to go down the RC vap and he popped off
19 the old valve that he was going to replace and we had a of stream of
20 water approximately 3 inches in diameter and it just blew the valve
21 over in the next vault and we had a stream of water coming over there
22 like a fire house. It was 3 r water and water temperature wise it was
23 somewhere close to 200 degrees because Dave Kimball scalded his hand
24 trying to get the other valve back in. He was assisted by Ike Waters
25

1 who is a utility worker assigned to mechanical maintenance and he is
2 not familiar with work of that type in control areas. He was somewhat
3 scared of the whole situation and Dick Himmel was literally getting a
4 shower in that water trying to get the valve back. Trying to get the
5 new valve back in. So what I did I pushed Dave, Ike Waters out of the
6 way and braced myself and took my foot and pushed the valve in so he
7 could get the four lock nuts on it and I pushed in on the valve which
8 increaed the flow and we got sprayed. Dave was in a crouched position
9 and somehow or another water got through the drain suit into his groin
10 area and when we finally completed the job we got everything back in we
11 drained probably 1/2 to 2/3 of the tank anyway in to the aux building
12 itself, reasoning being that they did not want to drain the tank because
13 the aux building was full and it had no place to go with the water and
14 they were somewhat in emergency to get rid of this water, which is a
15 classic case of operations controlling HP, so when we came back to
16 check out the xenon in the area was high we had the friskers on the 100
17 scale we were reading somewhere between anywhere between 10 and 20
18 thousandc counts on friskers and Dave Kimmel had checked his groin area
19 and had a pegged x 100 scale times on the frisker. At that time it was
20 emotional on my part I was screaming at Joe DeMann and telling him we
21 will never do this job again and one word led to another and Mr. Nimitz
22 who is an NRC representative was sitting in the lab at the time and he
23 came over and talked to be about the whole situation, what had happened
24 so then we checked Dick Kimbell was in E-520 and we were reading 40 mr
25

1 in the groin area. We had checked him and another fellow from NMSS was
2 back there I don't know who he was but he had taken over the decon
3 operation and that is the last of saw of Dick Kimbell that night. I
4 believe I had made out the contamination report on him and I do not
5 know where it might be at the moment, should be in the file. But two
6 nights later, Dick Kimbell came back into the lab when our background
7 was down and checked himself with the frisker and he pegged out on the
8 100 scale. I asked him where did you get that. He said I don't know.
9 I was not even back in the contrl area for 2 days and I can only assume
10 that he got it that night and he got by the friskers out front also.
11 He had relayed to me that he had gone home and went as far as having
12 intercourse with his wife. So I got emotional that night and said okay
13 this is the end of the line and I am going to do something about it
14 right now. So I took him out the front gate, front PC Center and I saw
15 Joe DeMann come out and I told Joe come on out. I said look, "This has
16 gone far enough. You had Ed Houser and now you have Dave Kimball,
17 these people should not be going home in the contamination status."
18 "Either you do something about it, you send them to the hospital or you
19 get them cleaned up. You clean them up here I don't care how you do it
20 but we are going to the NRC trailer right now and talk it over, the
21 measures to take." He said , "Yes, I was going to take care of that."
22 So I sent Dave Kimball over to get a whole body count. I said go over
23 right away I don't care what you are doing, tell your supervisor go get
24 a whole body count." Well he went in the whole body count drove it
25

1 crazy. They could not even do a body count on him. He was too hot. So
2 then it was a matter of sweating it out of him the best they could. I
3 guess they finally identified it and that was the last of heard of the
4 whole incident. I more or less put it in Joe's hands he was responsible
5 for it and I hope he took measures to straighten it out. We still
6 never got any real guidelines from personal decontamination on the
7 guideline for release for limits. We are knowledgeable enough that we
8 can take the proper decon measures but we have to have the guidelines
9 set down not just based on the nasal swab. That is what I am waiting
10 for right now that particular area we are poor in. Unit 1 is being
11 turned over to Met Ed right now. We are getting right back to where we
12 were before. Air samples are not being taken enough and are not being
13 documented properly they need to be documented in three different areas
14 that if your writing out an RWP from my point the senior technician I
15 have to read through all kinds of books to find data and you start to
16 assume a lot and you get in a bad habit you can't relay it so there is
17 nothing you can do about it. This is the kind of problem you are up
18 against. You have training and you have mass apathy, I think. They
19 just tie the hands of our supervisors to much to date they lose control
20 of what is going on back there. It may even take the accident to
21 straighten it out, I don't know.

22
23 YUHAS: Do you have a procedure for documenting violations in Health
24 Physics procedures?
25

1 DONNACHIE: Um hum.

2
3 YUHAS: Do you use that procedure?

4
5 DONNACHIE: Yes we do. But we have a peculiar situation here with, we
6 have a union and we have management. There is like an unwritten rule,
7 you don't write another union brother but you can write up a management
8 personnel, management personnel has the option to write up anybody they
9 want. Normally we don't run into personnel filing HP procedures they
10 are pretty precise. We don't have too many unauthorized entries or
11 violation of procedures from other people. We do have violations
12 procedures I think more from operations standpoint than our own people
13 that are taken for granted but that is more or less you should know
14 better before it gets the violation. But I have been in meetings with
15 my superiors at HP as far as change in procedures that were not applicable
16 to the situation. One being release of gaseous wastes in Unit 1.
17 Sampling techniques and also documentation. Well I was down in the
18 office almost eight months ago saying this is no longer feasible to do
19 it this way you want to do it this way you better change your procedure
20 or document it likewise. Okay initiate a TCM on it and change it. It
21 was never done. So you will have people that are still doing the
22 sampling the old way which they should not be doing anymore. And you
23 go up and you talk to them about it and they say yes it slipped my mind
24
25

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1 I better get on that. Then you get involved with other things and it
2 might be a month or so later before you get back to that situation.
3 You find out later that there was nothing taken care of. It is a
4 serious matter.

5
6 YUHAS: Are there enough instruments available for free incident conditions
7 such that the technical specification requirements for entry into high
8 rad areas are met?

9
10 DONNACHIE: We have lost control of our instrumentation as far as
11 portable instruments. It is depends on how you want to look at a
12 situation. We have a guideline limit set down on an RWP that is the
13 general area is greater than 100 mr who ever is going in that job cycle
14 will have a meter. Three years ago we made up a book for signout for
15 metering, equipment that was fine for about 2 weeks and then that
16 started slipping by the way side. Now we have lost equipment. Lost
17 radio equipment they have purchased numerous portable monitoring equipment.
18 It is still being lost or misplaced due to the fact that it is not
19 being signed out we are losing controlled. We have run into situations
20 already where we have enough equipment in the lab to control that
21 situation to find out what our readings were. Air samplers especially
22 we do not have enough air samplers to go around. In fact right now I
23 think we have one in the lab right now we are lucky. And dosimetry,
24 dosimeters especially they are souvenir items around here. We probably
25

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1 have gone through about 5-6 thousand dosimeters since this accident.
2 Respirators we totally lost control of the respirators we had thousands
3 of respirators and now we are down to you have to run over the yard to
4 find one or two respirators to do a job. I can see it for the emergency
5 problems we have had in the last month. But before hand we didn't have
6 the problems with the respirators but we also had the problems with
7 monitoring equipment. It was just a matter of buying new equipment.
8

9 YUHAS: You are painting a picture of a marginal safe health physics
10 program, let me ask you it doesn't appear that all these problems
11 occurred within the week before the incident based on your discussion
12 there are problems and you describe efforts you have made, for instance
13 efforts pursuant to Part 19 to contact the Commission and explain your
14 concerns which you apparently had expressed them to the licensee and
15 actions were not forthwith.
16

17 DONNACHIE: We had two technicians express their concerns to NRC officials
18 two years ago, well three years ago. The situation was still apparent
19 back then. These were at home situations where they talk to the NRC.
20 This being Pete Velez and Ed Houser. They had voiced their opinions of
21 the whole matter nothing changed. When this came to my attention, I
22 tried to straighten it out with my own inhouse people, it is just a
23 matter of how your emotions are flowing at the time you know you can
24 become apathatic and withdrawn from the whole scene when you don't get
25

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1 any results and it can bounce back and get back into the scene again. I
2 am the steward for our department and more or less if there are any
3 problems concerning the people in the department, they are done through
4 me or Mike Janouski. We have set down with the company numerous times
5 with mutual problems meeting. Training was always a big issue and it is
6 just a matter of we don't have a feel on how much control the NRC has
7 over the people, how much training the NRC requires a company to give
8 their people. We have not feel for that. We can't put our finger and
9 say it that a problem for the NRC to be concerned about that or they
10 just dismiss it as a passing fancy. We have regulatory training to go
11 through every year which is called general employee training. Which
12 that is a farce as far as we are concerned because it goes through very
13 basic health physics standards limits that we use everyday and it is
14 not anything foreign to us so we just take the test when that section
15 comes up during the day and everybody ace's the test. It is that
16 simple but it is hard for an employee that is not familiar with HP.
17 The other items involved are QC and security and safety. Safety aspect
18 being how many accidents have occurred through out the last month. The
19 security is being security system, QC is being a matter of someone
20 standing out front and asking if you have any questions on QC, what QC
21 does. And going to mix and how important it is in the area. But
22 generally that is one day out of the year the year you go to GET training
23
24
25

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1 and that is regulatory requirement. That to a technical field which we
2 are in in operations, it is not feasible for us. It is like a first
3 grade education.
4

5 YUHAS: Your training indicates that you had 24 hrs of health physics
6 training from Unit 2 in December 1978. Can you describe the training
7 to me.
8

9 DONNACHIE: The 24 hours Unit 2 training is more or less on-the-job
10 training.
11

12 YUHAS: On-the-job training is someone supervising you providing you
13 with instructions and so on in one specific area?
14

15 DONNACHIE: My instructions in Unit 2 were normal sample paths in the
16 Unit 2 sample room. All from the secondary sampling lab. That is
17 basically my training in Unit 2.
18

19 YUHAS: Did that take 24 hours?
20

21 DONNACHIE: It did not take 24 hours. 24 hours training is one week I
22 was assigned to work in Unit 2 which I did routine chemistry. Walked
23 through, showed me where the sample points were, where I should draw my
24 samples to the chemistry.
25

1 YUHAS: Who took you through the walk through and how long did it take?
2

3 DONNACHIE: Well Cary Horn took us on walk through. Ed Houser had
4 shown me sampling system in the sampling room. Those are about the
5 only things that I remember for training.
6

7 YUHAS: How long did that take?
8

9 DONNACHIE: It did not take more than 2-3 hours.
10

11 YUHAS: Describe the other 20 hours.
12

13 DONNACHIE: The other 20 some hours are, I was there my body was in
14 Unit 2 and that was documented in training it was brought up in a
15 meeting with the company. Why I had all this training in Unit 2. If
16 you also look at my training record you will see that I and 3 other
17 members of my shift were also documented for SAM-2 training which we
18 never received. Which we jumped on them five or six times about getting
19 the training which we still have not received. This is through out a
20 year and a half.
21

22 YUHAS: When was the last time that you were either demonstrated to or
23 you actually operated the SAM-2 instrument prior to this incident?
24
25

1 DONNACHIE: The last time that I actually operated the SAM-2 instrument
2 was last fall when we had an emergency drill. This is the one and only
3 time we used SAM-2. They are in our emergency kits. Other than that
4 we don't use them. And the only reason I knew how to run it at the
5 time was it was a procedure with them. I read the procedure step by
6 step on the procedure as far as operating, that I took it upon myself
7 to do. But with four members in my shift alone that we try to train
8 you as a group and we are documented for how many hours for SAM-2
9 training which we never receive, which was brought to their attention
10 several times.

11
12 YUHAS: Who are the four members of your shift that never received
13 SAM-2 training?

14
15 DONNACHIE: Vince Hamlin, Tom Pyke, Buzz Diamond.

16
17 YUHAS: You are sure this is documented in your training records?

18
19 DONNACHIE: It is documented in mine.

20
21 YUHAS: When did you bring this to the attention of management that
22 that documentation is not correct?

1 DONNACHIE: That was probably last August or September before the
2 emergency drill and we were told yes you will be trained before the
3 drill comes up but we never were.
4

5 YUHAS: During the drill, were you trained on how to use the instrument?
6

7 DONNACHIE: No.
8

9 YUHAS: Have you been trained since on how to use the instrument?
10

11 DONNACHIE: No
12

13 YUHAS: During the course of this incident this actual incident, were
14 any of you four expected to use that instrument?
15

16 DONNACHIE: Yes, we were all expected to count and use the instrument.
17

18 YUHAS: Did all of you try to make measurements using the SAM-2?
19

20 DONNACHIE: Yes we did.
21

22 YUHAS: And none of you had been trained.
23
24
25

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1 DONNACHIE: No none of us had been trained.
2

3 YUHAS: What response would you address and give me a name of the
4 specific person in management that you had not been trained but your
5 records reflected that you had been trained. Who did you bring that up
6 with?
7

8 DONNACHIE: Tom Mulleavy.
9

10 YUHAS: What response did you get?
11

12 DONNACHIE: We will train you, but he did not give up we have had two
13 or three sessions set up and some management problem arose that they
14 could not train us and they cancelled it. That is basically what
15 happened. Whenever we were down in the mutual problem committee, I and
16 Mike Janowski we would compile a list of items of mutual problems being
17 something that should be looked into. Training was always at the top of
18 the list. You would get the same old answer yes we are working on the
19 sample training period as soon as you can break away from Unit 2. The
20 Unit 2 put a lot of time on the foremen because we were in a hurry to
21 get it up. That is my impression, but it reflected on the training of
22 the people in the department and one thing I really needed training on
23 was Unit 2 RMS and unit 2 technical specifications. None of which was
24 ever given us. To anybody to my knowledge. I in fact even told Tom
25

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1 Mulleavy we were to get the data for the Unit 2 RMS system from an
2 admin procedure from an operations procedure and what he had done he
3 had taken that procedure and also added on Unit 1 RMS system which I
4 had all the training I needed on RMS 1 and all the documented data in
5 my locker. I had nothing for Unit 2 and it was brought back in documented
6 style and in a folder and handout here you go. That is what you wanted,
7 here it is.

8
9 YUHAS: Was this handout just circulated to the people?

10
11 DONNACHIE: Well, he did not give each person in the department a copy.
12 He only brought back 5-6 copies one of which I used for my own personal
13 use. Conveyed to the members of my shift, one I posted in a book in
14 the Unit 1 HP lab the other I put in the Unit 2 HP lab and the other in
15 a loose-leaf binder RMS system for everybody to use. So it is not like
16 I had a handle on something no body else did I tried to make sure
17 everybody else was aware that we finally got something in the RMS.

18
19 YUHAS: How are you appraised of the changes and technical specs of 10
20 CFR part 19, 20 procedures?

21
22 DONNACHIE: We are -- since I have been here I was never set down and
23 trained on 10 CFR 19, 10 CFR 20 or tech specs. 10 CFR 19 and 10 CFR 20
24 I set down myself read what I had questions on I went to the supervisors
25

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1 involved and they answered the questions for me to my satisfaction.
2 Technical specifications, we had a copy back there. Unit 1 and Unit 2
3 but you would never be formally trained on Tech Specs.
4

5 YUHAS: Is that a control copy of the data and most recent revisions?
6

7 DONNACHIE: To my knowledge it is not. It is not a control copy. It
8 has a lot of loose pages in it that fall out when you use it and the
9 control copies to my knowledge are down front for tech specs. That is
10 basically if you have a question or something you look at tech specs.
11 It is probably a good amount of technicians back there that never even
12 saw tech specs.
13

14 YUHAS: When was the last internal audit, by internal I mean GPU, or
15 Met Ed of the Health Physics Chemistry Department?
16

17 DONNACHIE: There was an audit taken back I think right before in
18 January, early February by NUS Corporation came in to do an audit of
19 our department we had told them our gripes and problems and...
20

21 RESNER: Once again we got cut off with a short tape. Time now is
22 12:57 a.m. on May 18, 1979. We will pick up where we cut off.
23
24
25

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1 DONNACHIE: Concerning HP audit and NUS Corporation performing the
2 audit, we were told after I had talked with the man who was here to
3 audit our department and this was getting in to the Unit 1 outage. I
4 told him right after I asked him how did you make out with our audit.
5 He said we definitely need more people, we definitely need training. I
6 said what did can you do about it. He said well you don't have the
7 time and you don't have the financing to take care of the immediate
8 problem. He just threw his hands up as if it were a waste of time.
9 That was the result of that audit.

10
11 YUHAS: Do you know if that audit was ever documented. Was a report
12 issued to GPU by a NUS Corporation?

13
14 DONNACHIE: I did not know you would have to check with NUS on that. I
15 could probably find the name of the person that was in there he was on
16 the back shift and we talked to the people the technicians themselves
17 everybody in the department was talked to one way or another on their
18 opinion of Met Ed health physics.

19
20 YUHAS: We already have requested it.

21
22 DONNACHIE: You have?
23
24
25

1 YUHAS: A copy of that audit from GPO.
2

3 DONNACHIE: Well that is not surprising. But those are the problems
4 come against and I hate to say we are not qualified to do our job but
5 if you really sit back and think about it we are not. And I think I
6 was talking to an NMSS technician and he had written a docket to NRC
7 about certifying health physics technicians in the field which I think
8 could be done. I think you would see more training come out of certi-
9 fication I wholly support licensing of senior technicians because we
10 are the ones that have control of releasing radioactive material and
11 whatever form it is we are the ones doing the gamma scans on it we are
12 assessing what is there we are putting it down on release permits the
13 documentation and the people with the signature there are a phone call
14 away. You tell them what the release limits are okay sign my name, and
15 they you might put three signatures that way. So that not one of them
16 has ever seen the release permit. And it is kind of risky if you have
17 a new technician there that doesn't have a grasp of this. If you don't
18 have a knowledge of knowing what the effects of it are and the MPC
19 values and the restrictions that are put on these releases you are in
20 violation. Although we have not been caught at it yet. I can't at
21 this time can't specify any particular waste release that we have
22 processed although we have there were two suspects in the immediate
23 emergency where there was dumping water without doing treating results.
24 Which was justified at a later date.
25

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1 YUHAS: This was during the incident?
2

3 DONNACHIE: Um hum.
4

5 YUHAS: Water was dumped from where without a permit?
6

7 DONNACHIE: Water was dumped from, our waste evap storage tanks in Unit
8 1 because our tritium analyzer was out of service.
9

10 DONNACHIE: Prior to this if we had any problems with that Tri-Carb we
11 had sent our results over to Hershey Medical Center where they were
12 processed before any dumped. Or if we were not able to perform a gamma
13 scan they were run down to Phil and to RNC and they would do an analysis.
14 But this particular time being I questioned I was given this was the
15 second night that I was up in the control room and I was handed a
16 release permit by Ken Bryan. Here take care of this, I looked at it
17 and I had basic results from a gamma scan. I don't know who did it.
18 There was no time or date or anything on the sample, and I said well I
19 can't process this I don't have enough information and he said well I
20 don't care how you do it just do it. I said you can't dump this unless
21 I get more data he said well call Tom Mulleavy in Unit 2 so I called
22 Tom Mulleavy and what I did what don't you have and he said what don't
23 you have and I said I really don't have a chemistry on this which at
24 that time I called Gary Regg was doing some analysis downstairs and I
25

1 asked him to process the chemistry for us. Gary Regg being a chemistry
2 supervisor, he honored my request. He did the chemistry results were
3 within specifications. Then he gave me the time and date of the sample
4 and all I needed at that point was the tritium value. So I got back on
5 the phone and called Tom Mulleavy and said I need a tritium value, who
6 can analyze it he said we cannot do it here. I said how about Hershey
7 he said well they don't have efficiency made up for our geometries set
8 up anymore for our counting. He said well why not and I said he doesn't
9 know for sure it can not be sent to Hershey. I said well you are not
10 going to authorize this release. He said yes I authorize the release to
11 justify the tritium at a later date, so the water went out. What did
12 you put on that release form? I had put on the release, form we had
13 never had a release flow restrictions based on tritium. It was always
14 based on some isotope for us, based on the sensitivity of the monitor
15 and what I did I processed it out and his name was put on for the
16 initial authorization, pump that out and from there after Mulleavy or I
17 needed the HP foreman, the three prerequisites for authorizing them.
18 It is the health physics foremen, or supervisor and then it goes to the
19 section head which is Dick Dubiel and now I guess Lenny Landry is his
20 subordinate. He also has authorization at that point who is the shift
21 supervisor. Normally, the shift supervisor they put their names on
22 everything around here. Everything has to be authorized by the shift
23 supervisor. Even things of that sort and he has final authorization on
24 it although I don't think those guys have as much insight on release as
25

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1 we do and there they are authorizing it as somebody to take responsibility
2 when it gets out. I probably could sit here all night and draw a lurid
3 picture but that is just the way things operate around here.
4

5 YUHAS: What does that waste concentrate, that is a waste concentrate
6 tank?
7

8 DONNACHIE: That is a waste evap concentration storage tank.
9

10 YUHAS: Waste Evaporator Concentration Storage Tank. What does it
11 normally run?
12

13 DONNACHIE: It varies, it usually runs to the minus 2 microcuries per
14 ml. Sometimes it may even run as much as the minus one. Probably about
15 average.
16

17 YUHAS: I don't have any more specific questions at this time. I do
18 want to make clear to you that we will be on site for quite a while and
19 if any more specific examples of flagrant noncompliance either with
20 Part 20, 19, tech specifications or procedures come to mind, we would
21 appreciate you advising us, in addition we appreciate you advising us
22 of those instances which you have previously have brought to the at-
23 tention of management as being in noncompliance with some license
24 condition or regulatory requirement and that management has not responded
25

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1 to. We consider those to be the most severe. I do have one additional
2 question at this time. That question is do you have any reason to
3 believe an individual may have deliberately precipitated or may have
4 aggravated the incident that occurred in Unit 2 on March 28?
5

6 DONNACHIE: To my knowledge no. I don't feel there was any type of
7 sabotage involved in the whole thing. I just think that what happened,
8 happened something was overlooked this part of the surveillance matter
9 do to the stress and strain of the foreman probably was overlooked on
10 the check off list. I don't have, I am 100 percent it is my personal
11 opinion that there was no sabotage involved.
12

13 YUHAS: Fine thank you it is pretty late in the evening and I think it
14 has been a very fruitful discussion. I certainly appreciate your
15 candid responses. We would like to advise you that we are aware that
16 the licensee has requested to hear your copy of the tape or any interview
17 or tape that you may have made with the Commission. The copy that we
18 provide you is your personal property it is entirely up to you whether
19 or not you surrender that copy to anyone for review. That is your
20 property and it is up to you. If you are harrassed or intimidated in
21 any way please inform us. I would like to express our thanks for
22 coming.
23
24
25

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1 DONNACHIE: Appreciate it.
2

3 RESNER: We are concluding this interview the time is 1:07 a.m. May
4 18, 1979.
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