TMI STAFF INTERVIEW

Fred Scheimann 0230 Hrs. March 30, 1979

Conducted By: R. Long and D. Reppert

LONG: This is Bob Long talking. Don Reppert and I are going to interview Fred Scheimann. It is 0230 hours on March 30, 1979. Fred would you give us your name and job function?

SCHEIMANN: My name is Fred Scheimann. I'm Shift Foreman over in Unit 2 for A Shift.

LONG: Were you on duty the morning of the incident?

SCHEIMANN: Yeah, I was on duty the 11 to 7 Shift.

LONG: I guess what we'd like you to do, Fred, is tell us where you were from like an hour before the event, and then go into a description of your actions.

SCHEIMANN: O.K. Approximately an hour before the turbine tripped and the reactor trip took place, I was over in the Auxiliary Building making a tour of the plant, looking for any abnormal leakage or any problems with the equipment over there. Approximately 10-15 minutes prior to the trip I reported back up to the control room to take a look at plant conditions and determine whether anything was abnormal at that time. I could not see anything wrong.

About 5 minutes prior to the trip I had been called down to the polisher. My operator down there was having difficulty transferring resin from one condensate polisher to the receiving tank. I got up on top of the pipes where the sight glass was for checking the resin and all of a sudden I started hearing loud thunderous noises like a couple of freight trains. I jumped down off the pipe and I heard the words, "turbine trip, reactor trip," and at that time I went as rapidly as possible up to the control room.

LONG: The announcement was turbine trip and reactor trip?

SCHEIMANN: Turbine trip, and a couple of seconds later, reactor trip, came over the page system.

LONG: Um Huh.

SCHEIMANN: On getting up to the control room, I jumped over to the pressure control systems for the primary plant and I noticed we had full Engineered Safety injection, as required by the circumstances. I established myself to take care of pressurizer level, pressure control and primary plant. We had noticed that pressurizer level and system pressure were restored O.K. as we would expect with two makeup pumps and the High Pressure Injection valves, MU-V16's open.

Once the system pressure was up where it should be and pressurizer level was showing signs of being where it should be, we took off one of the Makeup pumps and started shutting down on the MU-V16's. I noticed pressurizer level was starting to go higher and we established maximum

SCHEIMANN: (cont.)
letdown; it didn't appear like it was doing us any good. Then within about a half hour to 45 minutes the pressurizer level was up to the top, at which time we were again watching our makeup tank; we were also watching all our other tanks to see where we were getting the water from - besides the Boron Water Supply Tank. We couldn't find any other water source coming in and we continued maximum letdown. Finally levels started to show signs of recovery coming back on scale - and it stayed high for the remainder of time I was up on shift. We did notice at one time that we were starting to lose pressure, so we manually reinitiated high pressure injection.

LONG: Is this some length of time?

SCHEIMANN: Yeah. It was some length of time later we started losing pressure again. But then we reestablished high pressure injection again and, after that point for several periods of time, we were running at least one string of high pressure pumps with injection going through two of the MU-V16 valves. The pressurizer level still stayed high; it was visible though for most of the time and pressure gradually stabilized out. Sometime later it was decided to start trying to cool down, and we started coming down.

LONG: Did you get any feel for the time interval?

SCHEIMANN: Everything was happening so wierd; I think it was probably late morning or early morning, we started cooling down as soon as we noticed we were having all kinds of radiation alarms and everything. And we were told, go ahead and cool it down. And while we were cooling down we were having difficulties with pressure hanging up - it didn't want to go down like it should have. We tried spraying down some more. When we couldn't get anything out of spray down we tried the electromatic relief, and that seemed to bring pressure down some; but we still couldn't get down to below about 900 to 950 lbs. We stopped the coolant pumps when we started seeing pressure was down. We were getting abnormal readings on our current indicators so we shut the pumps down. This was later in the morning. We continued to try cooling down so we could get on the decay heat removal system.

LONG: When you say later in the morning, you mean like ...?

SCHEIMANN: More like probably noon or so, 11 or noon.

LONG: O.K.

SCHEIMANN: 'Cause I'd been here from 11 p.m. the following night. I think I finally left around 6:30 that next evening, and it was a very rough time.

LONG: Can you back up a little bit and describe the events leading to the initiation of the site emergency?

SCHEIMANN: O.K. I'm trying to figure what a rough time for that would be. Probably the emergency itself was declared 6:30, quarter to seven.

LONG: O.K. Can you continue from that point?

SCHEIMANN: O.K. The reason it was declared then was that was when we were first seeing signs of our radiation monitors going off in more than one building. Up until that time, from the time of the trip, we had had no signs of any radiation problems. Once the two monitors came in we declared a site emergency and we started getting all the other alarms from the RMS.

REPPERT: Who made that decision?

SCHEIMANN: The shift supervisor, Bill Zewe, called the emergency.

LONG: When we were talking to Ed (Frederick), he described the communication mode in the control room, from the turbine trip up to this point, as being kind of "team decision."

SCHEIMANN: That's affirmative.

LONG: Could you comment on the communication that was going on?

SCHEIMANN: Communications went on, I'm proud to say, "very good." At the time of the problems I had myself on the pressurizer control systems. Ed, if I can remember correctly was over on the makeup system and high pressure injection system. Craig was over on the feedwater associated systems and the supervisor was keeping an overall watch on all that were down there. I thought that, for the conditions we were in at that time, e had good communications and I felt that we handled it fairly well.

LONG: Do you remember any particular trouble areas where you had to make decisions and who was taking the lead in making decisions?

SCHEIMANN: Overall the decisions were made by the shift supervisor, Bill Zewe. There were a couple of times when I told the operator to cutback on makeup. I thought pressurizer level was getting too high and I directed him to increase letdown flow, things such as that. I would say it was pretty much a joint effort as far as making decisions on what actions were taken at the time.

LONG: Did you make any recommendations at any point?

SCHEIMANN: I'm sure I must have. As to exactly what ones they were I really can't remember that well; at the time everything was happening so fast for a while there.

LONG: What other kinds of things ...?

REPPERT: We talked a few minutes earlier about the site emergency. Do you remember what the source of the radiation readings were?

SCHEIMANN: There was a high alarm, I believe it was HPR 219 and I believe it was also two separate areas of alarms from HPR 219.

LONG: O.K. What part of the ARM monitors? The containment building?

SCHEIMANN: Yes that was in also. But what I'm trying to say is as far as I remember the first one that got in was somewhere in the vicinity of (Radiation Panel) 487. Then after that, we were getting one after another coming in.

LONG: At what point, Fred, did you decide that you had something other than a normal kind of turbine, reactor trip sequence?

SCHEIMANN: I would say that the point where I was concerned was probably at the point where we were starting to get the radiation monitors. Up until then it looked to me like we were still pretty much in control of things. And then just before the alarms was when we started seeing that the pressurizer level was going out high on us. That is the point where I was concerned that it was more than an ordinary trip that we had seen in the past.

LONG: So that was like 6:30?

SCHEIMANN: Yeah, about 6:30. Even though it did take us a longer time than normal to establish everything under a controlled evolution, I wasn't really too concerned that there was a major problem, until after that time.

LONG: Have you been in the control room before or during a reactor trip?

SCHEIMANN: Yes, I have. I've been in for many trips as well as for one trip that had occurred that wasn't scheduled.

LONG: Did you use any procedures?

SCHEIMANN: Yes sir. As soon as we got over the initial action on the trip itself, we pulled out our emergency procedure books and we went through the turbine trip, reactor trip, and, let me see, what was the other one we looked at? The loss of coolant and loss of pressure procedure - we were looking at that one.

LONG: So how did you use those?

SCHEIMANN: Well we tried to direct it - once we had our initial actions taken care of - we got out the book to make sure that we didn't miss anything - and also to see that we were going on properly for the following events.

LONG: You stayed on that day until what time?

SCHEIMANN: I stayed on that day till about 6:30 that evening.

LONG: Then when did you come back?

SCHEIMANN: I came back in tonight.

LONG: O.K., tonight.

SCHEIMANN: Yes. I had a slight misunderstanding about when I was due in and I was told to come in tonight.

LONG: There were various communications off site, were you involved in any of those?

SCHEIMANN: No sir, I wasn't. I was involved in trying to keep the plant in as safe a condition as I possibly could.

LONG: How about your auxiliary operators, were they sending information to you or volunteering information - how were you working on that?

SCHEIMANN: As soon as we were starting to have problems, unless the word came out on the page system, our operators would feed back whatever information they could get to us at the time. They did this until such a time as we were unable to staff the auxiliary building and fuel handling building areas - we had to pull people out of there. Then as far as the turbine plant and such, as long as we had people out in the area we were getting feedback as to what conditions were - such as when the turbine stopped rolling.

LONG: As you look back in retrospect, do you see any actions that you took that you might have done differently if ...?

SCHEIMANN: No sir, the way I look at it I don't feel that I would have done differently under the circumstances we had. I followed what my indications said, what I thought I needed to do as a judgement, and I think if I had that same situation over again I would probably carry on pretty much the same way I did.

LONG: O.K. Could you comment on any kind of equipment malfunctions? What were the things that probably should have functioned and didn't?

SCHEIMANN: Well it seems to me that our whole problem started out when the polisher outlet valves had gone closed on us and COV-12, which is the polisher bypass, didn't come open. As a result we tripped a condensate pump, then the feedpump went, and then the condensate booster pump. About that time the turbine tripped, then the reactor tripped. I don't believe that the by-pass valve operator behaved as it was supposed to. Once I left that area I went directly up to the control room to try to establish what was going on. And it seemed to me we had two emergency feedpump discharge valves that hadn't been opened. And that delayed our time for feeding steam generators. But other than that I would say the equipment, as far as the ES acuation went as it was supposed to. The diesels started as they were supposed to, and I felt that we really didn't have any major problem as far as core cooling.

LONG: How about your various alarms and indicators? Were there any of those that you ...?

SCHEIMANN: Well, we were suspicious for quite a while about the pressurizer level. I referred to earlier that, when we stopped the injection going into the primary system, the pressurizer level still was going up and up and up and it had actually gone to the point where it was off scale. We seriously had doubts as to whether that was accurate or not. We had instrumentation people check the reading by going to the computer and it appeared it was as it should have been, the uncompensated level. So once we established level indication on the console we verified that versus what our uncompensated on the computer was and we figured that we were pretty close to being where it should have been. So evidently we really didn't have a problem with the pressurizer level.

As far as any other indication we saw we were getting back chemistry reports that were saying that our primary was down 700, and 400 ppm boron which seemed awfull strange to me from the fact that we were chugging in water that was 2270 ppm or greater.

SCHEIMANN: (cont.)
The only thing that we could have figured was that maybe we were flashing a little bit in our letdown line where they threw the sample off, and that could have accounted for why we weren't seeing what we were expecting to see. I think there was another thing there that didn't look right to us - the concentration. 'Cause we had sent quite a bit from the BWST right into the primary plant and concentration should have been much higher.

Another thing that had us wondering was our system pressure. When we were trying to come down we could only come down so far and pressure would stop coming down. It would just sit there and hold ...

LONG: What was the pressure?

SCHEIMANN: That was approximately 950 to 1000 PSI in the primary and it seemed like it just came down that far and stopped.

We did have some difficulty with steam generator pressures. They didn't seem to be responding the way they should. They should have been coming down in a nice smooth decrease and I didn't really see what the problem was there, when the other operators had mentioned it. We had indications that the "B" generator evidently had a leak in it, probably a primary to secondary and, when we bottled it up, the pressure just held there in the generator.

LONG: Do you know the circumstances or roughly the time you noticed that?

SCHEIMANN: I'm trying to think where we were and what we saw for different reactions; but following up that steam generator, we thought it had taken and cured one problem for us. I'm trying to remember what the problem was - I think it had to do with building pressure - building pressure was going up on us and we bottled up the steam generator and it slowed its increase. So we thought maybe we had a steam generator problem from that. But later on, I would say more like 8 o'clock in the morning, 8 or 8:30, one of the people came up and said something about closing the isolation valve for the electromatic relief because we suspected that might possibly be leaking. Upon closing the electromatic relief isolation valve building pressure actually turned and started decreasing. So at that point we knew for sure we had a problem as far as a rupture in the RC drain tank, as well as a leak in the relief there. And by closing that we managed to turn building pressure around and come down.

LONG: All right. Was there any equipment that you needed that wasn't available or any kind of problem that you recall?

SCHEIMANN: To my knowledge everything that we needed started when it was required to start. The only equipment we were required to have actually did start, and to my knowledge I can't think of anything that didn't start.

LONG: I think we've about covered things. Don, did you have any ...?

REPPERT: There's just one question I have. You mentioned primary to secondary relief. How did you determine or what was the assessment that lead you to think you had a leak?

SCHEIMANN: At one time we were lower in pressure in the secondary side of the generator than the primary system pressure was and we were seeing an increase in steam generator level - a very gradual slow increase but we were seeing an increase - and we had that generator bottled up as far as feeding steam to it. That's the point at which we thought we might have had a primary to secondary leak.

REPPERT: Did they see any radiation level increase in the ...?

SCHEIMANN: VA 748 did go off in alarm; that's our off gas monitor from the condensor. That did alarm. That was another indication that we possibly had that problem.

REPPERT: O.K. This is the end of the interview with Fred Scheimann.

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