UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of:

IE TMI INVESTIGATION INTERVIEW

of

Eric D. Yochheim
Senior Engineer

Trailer #203
NRC Investigation Site
TMI Nuclear Power Plant
Middletown, Pennsylvania

May 15, 1979
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NRC PERSONNEL:

James S. Creswell, Reactor Inspector

John R. Sinclair, Investigator

SINCLAIR: The following interview is being conducted of Mr. Eric D. Yochheim. Mr. Yochheim is a Senior Engineer, Babcock and Wilcox, Nuclear Power Generating Division, Lynchburg, Virginia. The present time is 3:41 p.m., EDT. Today's date is May 15, 1979. The place of the interview is Trailer 203, which is located immediately outside the south gate to the Three Mile Island Nuclear facility. Individuals present for the interview will be Mr. James S. Creswell. Mr. Creswell is a Reactor Inspector, Region III, U. S. Nuclear Regulatory Commission. My name is John R. Sinclair. I am an investigator, Office of Inspector and Auditor, U. S. Nuclear Regulatory Commission. Prior to the interview being conducted and recorded, Mr. Yochheim was provided a copy of the document explaining his rights concerning information to be obtained regarding the incident at Three Mile Island. In addition, Mr. Yochheim was apprised of the purpose of the investigation, its scope, and the authority by which Congress authorizes the Nuclear Regulatory Commission to conduct the investigation. On the second page of the advisement document, Mr. Yochheim has answered to three questions. The questions and Mr. Yochheim's responses will now be recorded as part of the interview. Mr. Yochheim, do you understand the document?

YOCHHEIM: Yes.

SINCLAIR: Second question. Do we have your permission to tape the interview?

YOCHHEIM: Yes.

SINCLAIR: Third question. Do you want a copy of the tape and transcript?

YOCHHEIM: Yes, I would.

SINCLAIR: O.K. Fine, Thank you. At this time I would ask you to briefly to give us some of your background, academic and work training in the nuclear field.

YOCHHEIM: O.K. I got my bachelor's degree from Ashland College in Ohio, in 1967, in the field of chemistry. The next pertinent thing to the nuclear field is graduate work, and I'm a candidate for my master's degree in radio-chemistry from New Mexico Highland University. I have not completed the degree. I have had two years of industrial experience as a radiological environmental monitoring of nuclear power plants. And since 1974, I've been with Babcock and Wilcox - two years with the Lynchburg Research Center, in which most of the time was spent in the field at the startup of two of our nuclear facilies, Crystal River and Arkansas Nuclear 1, and other time spent at some of the other plants; and since, the last three years have been with the Nuclear Power Generation Division. My work involves the area of chemistry and radiochemistry as related to the plants, generally our 177 fuel assembly plants, not much to do with the 205s or design. It

has to do with the chemistry and essentially, day-to-day problems in chemistry and radiochemistry that have been occurring throughout our plants.

SINCLAIR: O.K.

YOCHHEIM: Enough job description?

SINCLAIR: O.K. Thank you very much. I'll turn the interview over at this time to Mr. Creswell.

CRESWELL: O.K., Eric, who do you report to in the Nuclear Power Generation Division organization?

YOCHHEIM: My immediate supervisor is Daniel Levsteck.

CRESWELL: And his title?

YOCHHEIM: Manager ... Unit Manager of Materials Chemistry and Codes.

CRESWELL: Thank you. And, generally where are your duties? What duties do you perform? What responsibilities do you have in the performance of your job?

YOCHHEIM: As I described recently, or just a little bit earlier, the work involves very closely watching plant chemistry and radiochemistry parameters, and working with the site chemistry people with problems they have. Also a major part of my job in the past couple of years, has been performing onsite steam generator inspections, secondary site inspections and primary site inspections during refueling outages and during their maintenance outages.

CRESWELL: O.K. At this point, I'd like to take you back in time to the day of March 28, 1979. Could you tell us when you first learned of the event at TMI 2?

YOCHHEIM: I'll give you approximate times. It was somewhere after 8 o'clock in the morning, after I had reported for work for that day. I had heard that there had been an incident. And found out a little bit more, but again, in very, very sketchy information. At about 9:00 or 9:30, there was a general meeting there, which I attended as a representative from the Chemistry group for technical staff, and at that time was asked if any chemistry problems would occur, to please use me as a focal point. One of the main reasons, I've had a lot of involvement with Three Mile Island. I know a lot of the people, a lot of the chemistry staff. Another reason being that I was a badged individual cleared to come on site at that time, in case of any problems.

CRESWELL: Were you cleared to wear a respirator?

YOCHHEIM: Yes, yes, I was.

CRESWELL: Do you recall who you found out first ... who you found out from first ... about the event?

YOCHHEIM: I would only be hesitating a guess. There was a group of gentlemen discussing it. I was involved in something else and I had heard about it. And they said that there was this meeting going on and I asked my supervisor, and he said yes, go ahead and attend it. And I went down to that meeting of individuals. But to say who exactly who that name was, I would hate to right now. 'Cause I really don't physically remembre.

CRESWELL: About what time did this meeting take place?

YOCHHEIM: It apparently was going on at the time that I'd first heard about it. It had started a little after 8 o'clock, to the best of my recollection. It was somewhere after 9 o'clock that I got down to the meeting. It was not a formal meeting at all. There were several people involved. A lot of the senior officers of the Power Generation were trying to find out what was happening. And I stood as an outsider at that time.

CRESWELL: Do you recall who some of those sen or officers were?

YOCHHEIM: I can - yes. Some of them - Jim Deddens was there, and William Spangler. Another gentlemen, he is in charge, is Allan Womack, who was helping handle the situation.

CRESWELL: Was this the meeting that was held in the training room, close to the simulator?

YOCHHEIM: Yes, yes, it was.

CRESWELL: O.K. How would you characterize the discussions that you heard during the meeting? What was being discussed?

YOCHHEIM: The major emphasis was trying to come up with some reasonable, quick scenario on what had happened. A Metropolitan Edison -- as I'm sure you're aware -- person, Jim Floyd, was there doing simulator training. And as I understand it, had gone in before I got there, and tried to simulate to the best of what he had heard, what happened on our simulator, and tried to see if some of the numbers were floating that people were generating -- and how they were generating, I don't know -- but how they were generating and come to be, and what we could make out of the incident with the sketchy information we had available. I'm not sure exactly at that time, again, I think Allan Womack was

asked to be a cognizant individual at that time, to head it. Mr. Deddens asked that any information going out of B&W would be passed through him, that he was the major individual in charge, as it should have been. And that was the thing -- it was a very brief quick ... you know, it was organizational, and trying to put some details together, or trying to attack the plan of what would happen, and to try to get some more information.

CRESWELL: Do you recall that any plant parameters were discussed at the meeting? Plant conditions and that sort of thing.

YOCHHEIM: We heard some sketchy numbers about ... that there was a severe transient. That's about all. There were several different numbers floating around. I would hate to try and recall all of them I heard, really.

CRESWELL: Did you get the impression, from what you heard, that there had been fuel damage at the facility?

YOCHHEIM: I don't know if I can say -- I guess there was fuel damage. All I can say is that we thought that, again, there was a severe transient. It was different -- monitor airborne containment, monitor containment radiation levels, we had heard -- we were thinking either there was a severe release inside the containment building from the

fission product gases, or maybe it was worse than that, but again, it was very much speculation. No concrete numbers.

CRESWELL: Did you receive any instructions during this meeting, you personally?

YOCHHEIM: The only instructions were, essentially is that, to be, as I had asked earlier, to be the contact. And it was mentioned that I would be the contact for the chemistry, should chemistry problems to come through our group.

CRESWELL: How long did you personally stay at the meeting?

YOCHHEIM: Approximately a half an hour - 40 minutes. Something like that.

CRESWELL: What did you do after you left the meeting?

YOCHHEIM: I went back to my desk and resumed my normal activities, at that time.

CRESWELL: That would be working on another --

YOCHHEIM: Yes, I was actually working on one if our other projects -- a report for one of our other customers.

CRESWELL: What's the next thing that happens relating to Three Mile Island, as far as you were concerned?

YOCHHEIM: About noon that day, or a little after noon, I got a call from Allan Womack, requesting that myself and Dale Yule, from the Lynchburg Research Center, go on a chartered plane up to the island, to perform any chemistry or radiochemistry consultation services we could do either for B&W or for the Met Ed organization. We left Lynchburg at approximately 2 ... it was a little after 2 o'clock. Gc a call on the airplane to not try to go to the site, but to go directly to Greg Shadell's house, which, when we arrived at the site, we went out to Greg's house, and probably got there somewhere after 4 o'clock in the afternoon.

CRESWELL: Did Mr. Womack indicate why you, in particular, and Mr. Yule were selected to come down?

YOCHHEIM: No, not at that time. Dale was at that time Section Manager of the Radio Nuclear and Radio Chemistry Section of the LRC, where most of our expertise in that field

CRESWELL: LRC?

YOCHHEIM: Lynchburg Research Center.

CRESWELL: O.K.

YOCHHEIM: Dale was the Section Manager, as I said, and had been with the company, again, knew a lot of the people there. I personally, I think

CRESWELL: Knew a lot of people at Three Mile Island?

YOCHHEIM: At Three Mile Island, yes. I personally assumed I was selected because I had - two reasons: number one, as I mentioned in our interview, I was a badged individual on site here, through other work activities; and second of all, because I have had a reasoable bit of familiarity with the plant. I was up here for the ... helping with the startup, with initial criticality and also through hot functional testing.

CRESWELL: O.K. So, at this point in time ... about what time did you arrive at Greg's house?

YOCHHEIM: It was somewhere after 4 o'clock ... a rough guess, 4:15 in the afternoon.

CRESWELL: And after you arrived at his house, what sort of discussions did you have with Greg?

YOCHHEIM: We tried to get as much information as we could, obviously. Greg was getting information second, and possibly third hand by the telephone from the control room. That was the focal point that had been set up by the only B&W person on site, Lee Rogers. But the information Greg was getting, there was very little having to do with the chemistry and radiochemistry parameters that I was having to do with. We had heard again that we had had a severe transient. That we had a high pressure condition followed by a loss of pressure to the sense that the HPI came on. We had no idea on how long it came on, how much borated BWST water was put in, whether or not at that time, even whether we had a caustic injection. We could speculate to past experiences, but we really had no firm numbers, no firm idea what physically had happened.

CRESWELL: What was that other previous experience on caustic injections?

YOCHHEIM: We'd had, as I understand, as I recall, two incidents here. The way the system is set up, when -- and this has recently been, was changed prior to the incident -- the caustic addition into the high pressure injection comes on with either building spray pressure or the building pressure, reactor building --

CRESWELL: Four pounds (psi)?

YOCHHEIM: Yeah. I think that's what ... or it comes on with dropping of level in the borated water storage tank. So at other times -- a loss of pressure, a rapid transient, a rapid cool down -- we had had injections. And these last two changes were made ... I don't know ... several months, I understand, prior to the incident ... to require ... for the caustic to come on.

CRESWELL: What's the purpose of the caustic?

YOCHHEIM: I think, from a chemistry standpoint, it's to keep the pH up from a loss of cooling accident, or a minor ... to avoid low pH pipe cracking conditions.

CRESWELL: So as to protect metallurgical --

YOCHHEIM: Metallurgical protection.

CRESWELL: Does that have anything to do with iodine fixation?

YOCHHEIM: After the building spray comes on, if it was in the ... on the sump, it would then be pumped throughout the building spray system. Yes, it would indeed do iodine removal. But the initial purpose is metallurgical, at that point.

CRESWELL: In the previous two events that you mentioned, was there any deleterious effect on the caustic injection?

YOCHHEIM: Not to our knowledge. We saw no evidence of any problems.

CRESWELL: O.K.

YOCHHEIM: Except it took them awhile to clean it up. B&W required that the caustic be cleaned up to what we consider permissable levels, prior to allowing them to heat the plant up.

CRESWELL: Sometimes, I guess the sodium hydroxide contains a relatively high concentration of chlorides. Is this a concern?

YOCHHEIM: I would be. But as I understand it, this was not a concern here, that their caustic was of high enough quality grade, that their chlorides were at a high level. We did not notice a chloride excursion at a prior incident, that I, again, that I recall.

CRESWELL: Going on back to the time that you arrived at Greg Schaedel's house, did he mention anything to you about the plant personnel having isolated one of the steam generators?

YOCHHEIM: I'm trying to remember. I think that I ... I think in one of the conversations, yes, that he did mention that one of the steam

generators -- and I think he mentioned it was the B steam generator -- had been isolated. This may have occurred the following day, I might have heard it. I'm not sure, that I recall. I think that what

CRESWELL: Nothing stands out in your mind, though?

YOCHHEIM: No, no. That there could have isolated one of the steam generators.

CRESWELL: Something that I didn't ask you previously was, what sort of instructions were you given before you left Lynchburg? I mean, what were you tasks when you came down here?

YOCHHEIM: Essentially, was to provide any type of consulation in the areas of chemistry and radiochemistry, and to assist their plant chemistry and radiochemistry personnel in any type of activities which we could help him in.

CRESWELL: Helping set up any type of sampling programs, or working with their people, providing backshift coverages for their technical people, for their supervisory people, also. There's really ...

CRESWELL: Was there any mention, when you were at Greg's house, of there having been some boron samples that were taken that were anonymously low -- anomalously ... I'm sorry -- anomalously low?

YOCHHEIM: Not that I recall.

CRESWELL: O.K. So what's the tha next thing that happens?

YOCHHEIM We stayed around Greg's house until about 6:30 or 7 o'clock that evening. The information was ... the telephone calls were -- with Lynchburg -- were going on regularly. But most of the time it was Greg on the phone talking to the control room or Greg on the phone talking to Lynchburg. We went out to dinner. I told Greg where we would be staying and left him, to go. We were going to report back to his house the following morning to see what happened, and when we arrived at his house we found out that he was on site, or had left to come to the site. And then Dale and myself came on out, and went out to the Observation Center, as we had been left a note to do, and found out that we could not get on site. We stayed around here until approximately noon and went back to the motel and waited around for any type of telephone calls or something that we could do. The following day, we -- and nothing came up -- we, at that time ... Dale mostly, was involved

CRESWELL: Dale who?

YOCHHEIM: Dale Yule was involved with trying to get the B&W Radiochemistry Mobile Counting Trailer up to site He had been requested

to help provide this service. We were also requested to try to get some of our Alliance Research chemistry people down here in the laboratory to help analyze samples, if necessary. Again, at that time we had no idea how necessary that would be, but we thought that, if we could provide the service and have it up here. So, Dale spent most of the afternoon, Thursday, on the telephone trying to arrange this. And I worked with the people at Alliance trying to come up with that. We came back out Friday morning, 7:00, 7:30, again to the Observation Center. And at about 9:30 there was a call over to the Observation Center for me to come on site. I was cleared to come on site and came in that morning. Functioned essentially, working with the plant secondary -- or the plant's chemist in Unit 2, Kary Harner -- working with him and any kind of little problems that they have had at that time.

CRESWELL: Did you get involved, say, in sampling the secondary side of the B steam generator?

YOCHHEIM: At that time, there was no samples taken, although we were trying to get some. We were trying to get the results and sort out the results from the primary coolant sample that had been taken an hour later by the Met Ed people.

CRESWELL: O.K. So you did some evaluations of that primary coolant sample?

YOCHHEIM: After we saw the data coming back, it came ... that sample went out to Idaho Falls for the sample. And we, there again, reviewed the data. And I guess some of -- part of the sample went to Savannah River. Another part -- another sample went to somebody else .. Oak Ridge National Lab. And we were trying to look at the three pieces of data and see how closely they coincided, to get some of idea of what type of reactor coolant activity that we ... At that time we knew ... we had known that the radiation levels in our nuclear sampling room at the island were more than reasonably high, and knew we had a severe problem. Again, not knowing ... I say, severe problem -- higher than what one would expect ... activities. And had ... were just trying to sort out the best we could, how good the data looked from that initial sample, and how good the initial sample may have been under the conditions.

CRESWELL: Was there some question about whether the sample was truly representative of the conditions in the reactor coolant system?

YOCHHEIM: There is always a question in chemistry when a number doesn't come out that people like. There's always the first question - "is the sample representative?" And the gentleman who took it, is a very competent individual, and we were pretty convinced that he had done an excellent job in obtaining the sample.

CRESWELL: Was the sample on recirc for awhile before he took it?

YOCHHEIM: Yes, it was. I'm not sure how long. They have a normal procedure for doing that, and I don't recall right offhand how long - it's generally an hour or more that the sample is on the recirc. I'm not sure that - a lot of times, that sample is on recirc continuously to the sample room, so that they are not isolating in valves, contain the valves. And they may have been on recirc the whole time. I don't know if that was ever isolated or not.

CRESWELL: O.K. What did -- your evaluation of the sample -- what did it mean? What did you derive from the analysis?

YOCHHEIM: Just as a totally subjective point of view when I saw it, was that we indeed had a large percentage of fission product pouring, based on what one sees from pinhole type defects - a large percentage released into the coolant activity, based on iodine and cesium numbers that we were seeing. Again, it got tight in the stage and come out liek (phoenetic), a lot of the words that data was coming back, hand to mouth, second, third, fourth hand, and which we found out later that some of the numbers that already been passed were really not acurate. So we were getting pieces of paper, but not official data sheets, and having to make judgments -- or not having to make judgments, but trying to speculate, based on those.

CRESWELL: Were there particular nuclides that were under question?

YOCHHEIM: Oh yes. The iodine isotopes and cesium isotopes. mostly.

CRESWELL: Because of their high concentrations?

YOCHHEIM: Well, that and because of the environmental problems in release of iodines. And iodines are one of the major fission products that we monitor in release from the plant. Cesiums would be, but this plant is reasonably new and the cesium activity were not one that you'd expect normally to monitor. But we indeed, were looking for those, for the fission particulate matter - fission product particular matter. And what numbers we had.

CRESWELL: O.K. Did you derive any sort of conclusion about what the fuel condition was from that sample?

YOCHHEIM: No. I have a general area now, I'd know that, but I don't have high specific knowledge. At equalibrium conditions in plant life, I can calculate that ... pinhole defect levels. This was obviously not an equilibrium condition, and there was ... it appeared that there was indeed large fission product leakage from the coolant. No percentage whatsoever number, could we evaluate on site as to how much cladding, -- well, fission product leakage though the cladding -- actually occurred, whether they indeed were still -- whether there was a pinhole defect mechanism, or whether it was a severe cladding mechanism. Those kind of numbers could not be obtained from that. One could speculate, but

that's about all.

CRESWELL: Who are some of the people that you ... did you report to anyone on the site when you entered?

YOCHHEIM: When I got to the site, I went through to work with, as I said, Kary Harner, the plant chemist. Only because Kary had called -- I think it was Kary had called out to the trailer, -- and we had let it be known that we ... Dale and I let it be known that we over there. If they needed us, we would come on site. And Kary called and asked that I do come on. And at that point, essentially we were working, again, at any type of problems, and I can't specifically remember, exactly which little problems were. There was nothing really major. There was nothing, really, of a major operational things we were worried about. We were just working with limited data we had in trying to sort out what would be the next step, from a chemistry point of view, and what we would like to try to do, to find a little more information ... chemistry information -- what was happening inside both the reactor coolant system and the secondary plant. Trying to keep that water as clean as we could, also.

CRESWELL: Did you have any indication who requested that you come down?

YOCHHEIM: From Lynchburg, the only words I had that Allan Womack had requested that I come up.

CRESWELL: But do you have any indication of who had requested that you be sent down?

YOCHHEIM: No, no. Not other than that. Allan called and asked that I go, and that's --

CRESWELL: And when you got down here you got no indication of that? Say, somebody from Met Ed that had requested that?

YOCHHEIM: No. Not really.

CRESWELL: What were the conditions at the site, whenever you tried to gain entrance to the plant? Security, Health Physics, and so forth.

YOCHHEIM: Well, having been badged and respirator qualified here previous to the incident I was did not scrutinized very closely. They had the security guards stop me at the north gate, where I came through and out, and waited till the clearance came down from the Observation Center, saying that yes, I was cleared to have entrance. Having been badged, the badging was there and I had that, to come on. And then when I got to the Process Center, I was instructed that respirators -- charcoal or cartridge (?) respirators -- would be intermittently required, or possibly could have been intermittently required. Later on that day, I was in the cartridges for several hours while I was in the control room and control building area.

CRESWELL: Did you receive a TLD when you came on site?

YOCHHEIM: It was not issued -- thinking where I was issued one. As I recall, there was one with my badge I had previously had and the TLD was with it.

SINCLAIR: The time is 4:11 p.m. We going to break to change the tape. The time is still 4:11 p.m. We're continuing the interview with Mr. Yochheim.

YOCHHEIM: Let me clarify what I just said. I've been thinking back and that ... the badge was not with that. I was issued a TLD prior to coming over here at the Observation Center.

CRESWELL: O.K.

YOCHHEIM: As I recall, and from then on the badge was kept with it.

CRESWELL: O.K. So you cleared through Security, and you were in the access building, and then you went to the control room.

YOCHHEIM: I went directly up to the control room of Unit 2.

CRESWELL: What were the conditions in the control room that you found?

YOCHHEIM: From the standpoint of?

CRESWELL: Number of people ... what was going on?

YOCHHEIM: There was a limited number of people at that point. There were one or two people from B&W, and the normal control room operating people. I'm not sure ... I don't remember if Kary Harner was there at that time or not. A lot of my time for that first day was spent working for B&W, as well as for the chemistry consultation type services I described, drawing as much data as we could off the instrumentation. The first few days I was here, I was just looking at the instrumentation.

CRESWELL: You were working for B&W, and gaining this information, what type of data were you accumulating?

YOCHHEIM: Looking at the different instrumentation in the control room as to steam generator water levels, the reactor coolant pressure temperature, indications off of the daily computer, borated water storage tank level, core flood tank levels, monitoring this kind of data in an hour later, by hourly basis as requested. At that point in time, we had set up a 24 hour a day telephone line directly to Lynchburg from the control room, and this data was being passed back and forth, as much as possible.

CRESWELL: O.K. What sort of condition did you find the B steam generator in? You mentioned that you had been taking some data.

YOCHHEIM: We heard ... we found out that, indeed, it was isolated, and that they were not feeding any water to it. There was speculation, at that point, that indeed, there was a problem in the steam generator, that it had possibly suffered a tube leak during the initial transient, or sometime there reasonably closely thereafter. We were trying to set up a method of trying to get a sample of the water, whenever we could, to determine ... or to help determine, if indeed this actually ... or if we actually thought that that did happen. And if indeed it was, like, we could monitor it and on a periodic basis -- was it continuing to have a leak, if it did occur.

CRESWELL: Did it appear to have a leak, a continuing leak, to you?

YOCHHEIM: After we saw ... after we had obtained one or a couple of samples, and this, again, is down the line a little bit from the first time that I was there, this is after a week or so -- it appeared to me that, no, it was not leaking under the cooler -- cooler down cold conditions. But, obviously, something happened initially, that the levels in the generator, activity-wise, were higher, unless it was just a case of it had been bottled with activity. There was some ingress of activity into the secondary system. Of that, there is no doubt.

CRESWELL: But that wouldn't necessarily be a tube leak ... there could be another path?

YOCHHEIM: I suppose there could be another path. I don't know of one, right off hand. I can postualte a couple. But I --

CRESWELL: What would they be?

YOCHHEIM: When I said postulate ... I think if I looked at the plant drawings, I probably could come up with a path they can do. I know at other sites, I have found various methods where one could put primary activity water into secondary systems. My suspect that it ... and from the data we saw there, we suspect that there probably was a primary to secondary leak, in some form or other. Whether it was a tube leak or a weld leak, I don't know. But that's the data, that it would appear to me have been.

CRESWELL: You said you had accumulated some other data. What was that again?

YOCHHEIM: We were looking also at reactor coolant pump seal leakage, water leakage, temperatures, trying to correlate ... trying to get as much data as we thought was available. I had looked at pressurizer water levels and temperatures. There was a series of, probably 30 or 40 parameters, that the people in Lynchburg had asked us to start

obtaining data for. And we were having around-the-clock coverage trying to obtain this data for them.

CRESWELL: Who did you contact in Lynchburg?

YOCHHEIM: There were several people on site at this ... the other end of the phone line was on all the time. And there were several, and I can't really give you names necessarily of any individual at any one time. As I said, there were several different people assigned to man the different posts. There were chemistry people there, and there were nuclear physics people there, and there were reactor operations people there, all of which were were giving the data to.

CRESWELL: What was Mr. Yule doing, to your knowledge, during the event?

YOCHHEIM: While I was inside the plant, as I understand it, Dale was doing his best to try to get the B&W chemistry -- radiochemistry trailer set up, and organize for counting samples, should it be necessary outside. And by about Saturday morning or so, we realized that there was enough airborne activity on the site - xenon levels - that getting low level background counts was not then, and the Met Ed instrumentation was ... the location of it, was such that the background levels were high enough and access was limited enough, so that we could not use our instrumentation. So, we were in the process ... he was in the

process of trying to set this up, and at the same time, trying to set up the access for the Alliance Research Center people, who were doing cold chemistry analysis. During those times, Dale and I had very little communication. We decided we would take a 12 and 12 hour coverage. I would take the night shift; Dale would take the days. And for the first, I guess, until Wednesday following the event, that's what we did. We turned over in the morning, trying to push things. And I think Dale got on site, finally, Friday afternoon.

CRESWELL: O.K. Well, at this point, I'd like to ask you if you have any comments that you'd like to make, of any nature?

YOCHHEIM: No really. Again, my involvement was mostly advisory for awhile. Aafter I collected data, I had ... I was again just asked to be here in an advisory capacity, and to make comments. Again, most of the things we, the advisory, came out of was with consultation with our people in Lynchburg, and it was mostly data gathering, and how best we could collect samples, what was the best path to get them analyzed, once we got them - the radiochemistry samples; trying to get as much information as we could; trying to do the best we could on the secondary water system, to provide good quality water to the steam generators during the cooldown mode. And that's about all.

CRESWELL: O.K. John, I'm going to turn the interview back over to you for concluding statements, or any questions that you might have.

SINCLAIR: I don't have any questions. Thank you, Mr. Yochheim, for coming in and making yourself available today. I understand it's a pretty tight schedule. At this time we'll conclude the interview. The time is 4:20 p.m., May 15, 1979.