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U. S. NUCLEAR REGULATORY COMMISSION

INTERVIEW OF:

PHILLIP HUMPHREY

Main Conference Room
Administration Building
Vogtle Electric Generating Plant
Waynesboro, Georgia

Wednesday, March 28, 1990

The interview commenced at 10:10 a.m.

APPEARANCES:

On behalf of the Nuclear Regulatory Commission:

GARMON WEST, JR.

On behalf of INPO:

PAUL DIETZ

PROCEEDINGS

MR. WEST: We are here at Plant Vogtle. It's March 28th, and the time is 10:10. This concerns the IIT regarding the March 20th event at Plant Vogtle.

Whereupon,

PHILLIP HUMPHREY

appeared as a witness herein and was examined and testified as follows:

EXAMINATION

BY MR. WEST:

Q We would like now for the interviewee to introduce himself and make a brief statement, if you will, about your position, how long you've been here at Plant Vogtle and then tell us your knowledge and activities during the event, please.

A My name is Phillip Humphrey. I am a licensed reactor ope ator, and on the day of the event I was the balancing plant operator. I've been at Plant Vogtle since 1983, licensed as a reactor operator since 1987.

On the day of the event, my first duties were to verify that the diesel generator, (a) had come up to speed and voltage, watched it close onto the energized bus, subsequently the generator tripped without the regular trip. Left the control room proper for a few seconds and got one of my extra plant equipment operators dispatched in to the

diesel generator. That was Mr. Dewaine DeLoach to try to help out and assist in any way we could to get the A-train diesel started back up.

The next major task that I undertook, after the diesel failed to load back on to the bus, after the plant equipment operators had been sent to the diesel to verify we had no problems out there that we could find, went to the sequencer down on A level control building with another extra licensed operator, Mr. Keith Pope, to reset the A-train sequencer to allow re-energization to the bus when the diesel generator was restarted. Went down to the sequencer, down powered the sequencer, repowered it, reset the logic controls, reset the undervoltage, LED's, and reset the undervoltage signal. This allowed the sequencer to reestablish its proper operation and try to sequence loads again. I retired to the control room and subsequently the diesel restarted and tripped again, at which time we went back down to the sequencer because we still had a valid start signal then. The diesel should have tried to reload again after it started. And did the same action on the sequencer, down powered it, up powered it, reset the logic, reset the UV LED's and reset the undervoltage signals. Returned to the control room where we subsequently found out the diesel had tripped again on low jacket water pressure. At that time we determined in the control room to -- after

some discussion, to emergency start the diesel generator because we knew the urgency of the matter at hand, and the diesel was restarted, and at that point, I began working on getting the control room phones back. We had lost control room phones proper. We still had plant phones, TSC phones, but we had enough help in the control room where I was free to go try to get phone power back, which was -- at that time power from B-train power supplies normal power, which was the power supply that was out at the time because of our electrical lineman. Myself and a control building operator tried to find another means of powering the phone system. We had to find an alternate power outlet, extension cord, adapters and that type thing to re-power up the phones. We did that and then came back to the control room where at that time we began as a control room group to re-energize the A-train bus from the alternate RAT, which had been out of service. We were swapping her to another feeder. So we were involved in making sure we had everything lined up in that respect to try to restore power. That's basically the gist of my actions for the day involved with the event.

BY MR. DIETZ:

Q Now, you were an extra operator that was on shift during this time?

A Yes, sir. I was a balancer plant operator.

Q Balancer plant - As a balancer plant operator you

could go out to the plant and --

A Yes, sir.

Q So you went down to the diesel and --

A Sequencer.

Q -- sequencer, reset it after it started and tripped the first time?

A Right.

Q Okay. And then the diesel starts?

A Right.

Q And then you went down and reset the sequencer a second time?

A Right.

Q And the diesel started again, right?

A Right.

Q And then after that, they did have break glass?

A Right.

Q So there were actually four starts of the diesel altogether, the first automatically, one off the first time you reset the sequencer, one off the second time you reset the sequencer and then the break glass?

A No, just three.

Q Okay. So you reset the sequencer --

A Twice.

Q When you reset it the second time --

A Right.

Q What's the coordination to getting the break glass start? They'd done the break glass already or --

A No, we didn't know at the time that there would be a break glass start. So we were repowering the sequencer to try for another normal start. But then control room personnel decided that we'd already had two trips from normal start and the only thing we could do to ensure that we'd have power is to try the emergency start.

Q Since there is undervoltage on the bus, when you reset the sequencer does that lead to an automatic start of the diesel then?

A We have the undervoltage LED's, three per sensor and we reset those first so that takes away the undervoltage signal.

Q Okay. So you in essence bypass the undervoltage by resetting it?

A Not bypassing but eliminating the --

Q Start.

A Right. So that would -- We wouldn't want to have, you know, just an unmonitored start of the diesel with no one knowing if it could be started.

Q What do you have to do to reset the sequencer to actually get the diesel to start then?

A At that time -- I can't remember if we waited for the last step and called the control room and notified them

that we would be doing the last step or if they --

Q What's the last step?

A Reset the undervoltage signals.

Q And soon as you reset that it should start or -- I'm confused. I'm just asking.

A The start signal would be there again after we released the reset of the UV and then the diesel should start because it still has the energized bus.

Q Okay. So when you did the second one, you did do that last step and you allowed them to break glass start it?

A I can't remember for sure.

Q Is there a procedure for doing a break glass start sequencer -- when you are resetting the sequencer to get ready to do that, is anything covered?

A Not as a combination there's not. The day before the incident I'd been involved with a test engineer in a test of the B-train sequencer, which is essentially the same thing, and I just knew from memory the order and sequence that we had powered up the sequencer the day before to reset it to put it into operation.

Q Is there any training on that -- Had you done any training prior to that on doing this type of --

A Oh, yes.

Q And on the day before when you did it, you followed procedure or followed the directions o[f] --

A Followed a test direction procedure.

BY MR. WEST:

Q Do you know right off the top what the procedure is called or what is its number -- Let me ask you too, I've been in the diesel generator room and sequencer room, is that procedure there or --

A No, it's not. I could find out and get back to you on that.

Q Did you have the procedure with you at the time?

A No, I didn't.

Q Clarify this for me. Did you actually go to the diesel generator room?

A No, I didn't.

Q Were you in touch with them? In communication?

A Oh, we had an extra control room operator, licensed operator, on the headsets in touch with a senior reactor operator at the diesel.

Q But you, yourself, were you communicating with the diesel room?

A No. I was communicating with the control room via the page, gatronics system, and they were relaying communications through each other.

BY MR. DIETZ:

Q Where were you physically located at that time because I'm getting confused.

A In the control room initially.

Q And then when you went down to the sequencer?

A Go down to the sequencer which is on A level. It's just a couple of minutes to get down there.

BY MR. WEST:

Q Did you go directly to the sequencer room?

A Yes.

Q Did you just walk in, or how did you get in?

A I had a key.

Q Are you the only one that would have a key?

A No, each of the control room operators would have a key, the shift supervisor, the operations superintendent, all the building operators serving control outside, they have master keys to get in there.

Q You mentioned Mr. Pope. He was also there in the sequencer room?

A Right.

Q Was he there after you or before you?

A At the same time. We went down together.

Q Got there about the same time?

A Uh-huh (affirmative).

BY MR. DIETZ:

Q And then you were on the phone, the page phone?

A The page.

Q How far is that phone from the actual sequencer?

A Several feet. Had the flat of the room and talk on the gatronics because we hadn't powered up the phone system yet. There was a phone in the room, but it was down powered at the time. So I'd go out the room and then communicate with the control room and come back in.

Q Communicate with the people that were doing the actions at the sequencer, or were you actually doing them?

A I was doing -- me, myself, and Mr. Pope.

BY MR. WEST:

Q I just want to pursue the procedures a little bit. What you were doing, is it covered just by one procedure or was it more than one, and generally speaking, what you were doing have to do with resetting the sequencer --

A Right.

Q Is that correct?

A Uh-huh (affirmative).

Q Is there just one procedure that speaks to that?

A Should be. That's all I know of is one.

Q And generally speaking, what would that procedure be called?

A Should be a system operating procedure.

Q And just to pursue a little bit further, the training that you would get on activities related to the sequencer and things that you might have to do there at the sequencer panel, I take it, over a year, how much training

do you get on that?

A We get requal training on it is all. We may get on it two segments out of the twelve here in a year, briefly.

(Off the record)

BY MR. WEST:

Q Training, you were discussing that. Over a year, and you mentioned requal training. How much requal training do you get on activities that you have to perform at the sequencer?

A I would say somewhere during two segments maybe of training which is four days training at a time and several hours in a classroom session during each day.

Q Four days and --

A It'd be like one topic during the week, maybe twice a year.

Q Okay. The total requal is four days, is that it?

A Yeah, for one week. And then we have 12 sessions.

Q You have 12 sessions and one of your sessions would deal with this topic?

A Probably. On the average.

BY MR. DIETZ:

Q Would you normally in running the diesel communicate with a PEO out at the diesel doing what you were doing?

A In respect to what?

Q If you were going to run the diesel for a test, do you normally, as a BOP operator, go down to the diesel to -- or to the sequencer to work with it or anything?

A Not usually the sequencer. When we perform a diesel generator test, we usually have a headset set up from the control room. And we have at least one, usually two, plant equipment operators at the diesel generator and we coordinate through them to do the pre-op checks and you go through the procedure to run the diesel. As a general rule, may or may not go out there. It just depends on the workload and what's going on at the time.

BY MR. WEST:

Q I know you mentioned that both you and Mr. Pope had actions to perform related to what was being doing there at the sequencer. Now, who did most of the actions? Did you or did he do most of the actions?

A It was half and half, split.

Q Who was actually communicating with the control room?

A I did mostly, I believe.

Q And you were using the -- Were you using the gatronics?

A Right.

Q And did you have at any point a headset that you

had to use?

A No, I didn't.

Q And the gatronics, I understand, is a relatively short cord to the phone similar to a regular type phone?

A Right.

Q How far is that distance-wise from the panel that you were working on?

A It was outside in the hallway so probably --

Q So you have to leave the panel to --

A Right. Probably 30 or 40 feet. I can't remember exactly.

Q Do you have other ways of communicating, or was that it as far as you there in the sequencer room?

A Usually the phone system which is 15 feet away would be operational, but, again, it was B-train power.

Q I see. Now, with that gone, the only other thing that's available to you is the gatronics where you have to leave the panel and go out into the hallway?

A Either that or we can sometimes use hand held radios, but we didn't have any available right at that time.

MR. WEST: I think that's all.

BY MR. DIETZ:

Q Is there a headset connection near the --

A Yes.

Q Is there normally a headset down in that area?

A Usually there is.

Q No headset that day?

A No.

BY MR. WEST:

Q Now the headset that is usually there, it has an extension cord to it as well?

A Right.

Q How long is that extension cord?

A It's usually 50 feet or so.

Q And when it's there, is it there in close proximity to the panel?

A Close to the panel and the 4160 switch gear.

Q Would it also have the extension cord there as well when it's there?

A Yes.

Q You then have to take the extension and jack it in someplace?

A Right.

Q Now, how far away is that from where the headset extension is located, distance-wise?

A It's on the back wall, probably 30 to 35 feet.

MR. WEST: Thank you.

BY MR. DIETZ:

Q Just one other question on the sequencer and resetting. If nobody does anything else and the diesel is

tripped -- Let's say we get any trips in reset over at the diesel, if you then go on the sequencer and reset the sequencer, that automatically starts the diesel or is there something else that has to be done?

A If there is a valid start signal there, it should start back up.

Q Is undervoltage on the bus a valid start signal?

A Yes.

Q So that would start it back up?

A Yes.

Q I'm still, then, when you do the break glass, is there something that you did not do so that the start would not come in? Is that the last step of resetting these undervoltage?

A Yes.

Q By leaving those in, then when they did the break glass and everything, did they bypass that part of the sequence or did you then have to put it in or -- I guess I'm looking for the coordination of activities from the diesel to the sequencer to understand what you were doing or how it works.

A Usually the sequencer gives a signal to start the diesel.

Q Right.

A For some reason the sequencer had locked up,

logically -- on the logic board, and that's what we were doing, going down to reset the logic to allow it to go through its sequencer. So what we did should have given a start signal to the diesel, but it didn't, which we later found out was some -- I don't know if there was a problem or some design that we just didn't know about inside the sequencer that didn't allow it to start, but I'm not sure about that.

Q So when you reset it after the second trip, you reset the sequencer and the diesel did not auto start as it probably should have, or your understanding was it should have?

A Yes.

Q And then they did the break glass start.

A Uh-huh.

MR. WEST: Thank you very much.

CERTIFICATE

This is to certify that the attached proceedings before the U. S. Nuclear Regulatory Commission in the matter of:

Name: Investigative interview of

PHILLIP HUMPHREY

Docket Number:

Place: Vogtle Nuclear Generating Plant, Waynesboro, GA

Date: March 28, 1990

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

Susan M. Breedlove

SUSAN M. BREEDLOVE
Official Reporter

Ann Riley & Associates