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Pages 1 - 23

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P R O C E E D I N G S

MR. FOUCHARD: Things have change since about a week ago, and we thought we would come down here and give you the situation here today; this very well may be the last scheduled briefing.

We are going to begin to wind down our activities here in the press center; and to try to keep you informed we will probably try to keep the trailer out there for a while.

But Harold wanted to come down this afternoon and tell you about the current situation, and a little bit about where we go from here.

So, Harold?

DR. DENTON: There have been no dramatic developments one way or the other since I briefed you last. What I will do is go down a list of about eight items that I wanted to just make sure you are aware of.

Let me start by mentioning that the degassing operations are continuing. Reactor pressure has been brought as low as 400 pounds through degassing. We are attempting today to bring the pressure down to 300 psi for degassing of that pressure.

13 162

We have been experiencing some reduction in letdown flow when we lower reactor pressure, so efforts to over-

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With regard to ultimate cool-down of the plant,
the system being -- the so-called "preferred plan" looks
better and better, making the steam generator side solid
water, and affording natural circulation inside the vess
The plans presently are to modify the B-stea
gencrator loop -- this is the presently-inactive steam
-- by installing some pumps and heat exchangers, so t
leakage through the steam generator, the B-steam gene
loop, will not get out to the environment.
This is sort of an intermediate loop bet
steam generator and the condenser.
There is a long-term plan to also modi
steam generator loops, and install a high pressur
system, perhaps a 600-pound pump and heat exchan
any loakage from the steam generator side would
reactor.
But this would be a long-term progra
of the short-term program.
And this is a system which would
the reactor down to lower temperatures.
The present status of the core i
bout 1,000 pounds pressure; although

residual heat removal system, is being modified now to reduce the possibility of leaks in the system in case they were called upon; and to make maintenance easier.

Another system that's being installed in the RHR system on a priority basis -- which is engineered to minimize leakage and minimize need for maintenance -- and a pit is being dug adjacent to one of the buildings and heat exchangers and pumps will be brought in on a sled to provide an additional backup system to this RHR system.

And the plans are to construct over a period of several months a more permanent system of heat exchanger pumps, deionizers, so the contaminated water inside the reactor containment could be brought out through this new structure, and new chemical processing unit; and this unit would be the one ultimately relied upon to cool down water inside the containment, and to remove the fission products that are still in the water at that time.

There's a difference in short-term and long-term operations; but all of the systems I just mentioned -- the RHR, the sled, and the new unit, are backup systems; they are emergency backup systems to the preferred shutdown system I described using the steam generator.

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With regard to release rates of iodine and noble

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during the past 24 hours.

Today, for the first time, the armed aircraft was not able to identify xenon-133 in the plume. No doubt there's still some being released, but the monitors inside the building indicate very low levels are going out. The plant thinks it may have found the leaky diaphragm valve and is attempting to repair that. Also operations that disturb the various fluid levels in various tanks are being minimized.

I looked at the TLD readings for April 9th; that was the day on which there was a release from the plant, that the release rate from the plant was going up rather than going down during the night.

For that period on the 9th, all but three of the dosimeter stations showed radiation levels at background; background being 1/100 or 2/100 of a millirem an hour.

Three stations showed above background level. All three of these were in an easterly direction from the plant. They -- all three -- showed .03 millirem per hour, or approximately twice background on a per hourly basis.

Iodine releases from the plant are continuing as of yesterday at about their prior rates, about a tenth of a curie.

Today the filters are being changed in the

the structure going up on the roof of the auxiliary building, which is a backup filter system that will filter further releases from all the vent air, all the ventilation systems in the plant.

So once the auxiliary system filters are changed today, then I expect the iodine releases to decrease marginally.

The total exposure to the individuals offsite in our estimate continues to be less than 100 mr for the maximum exposure. Coming up to about yesterday on man/rem we calculated about 2,500 man/rem total exposure during the course of the accident.

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There was a shipment of waste from the plant to a low-level burial ground in South Carolina that was rejected by the State of South Carolina, apparently because it contained products that were generated in Unit 2. So the truck was turned around, and the shipment has been brought back and is now on the island.

Finally, we were informed today that in checking the valve alignment status in Unit 1 on March 27 they discovered that a valve in a system that supplied steam to one of the auxiliary feed water pumps was in a closed position, in violation of our test spec requirements on Unit 1. The valve of course was reopened, but prior to that time they were at temperatures for which the system was not designed.

That covers the items I wanted to cover, and I'll take questions now.

QUESTION: Mr. Denton, the NRC today advised operators of all light-water reactors that certain corrections had to be made on a priority basis, in part based on what's been learned here.

I wonder, specifically what was that anomaly here that's been extrapolated to Westinghouse reactors that is behind that directive?

13 107

DR. DENTON: Westinghouse informed all of its

coincidence required for initiatic of safety systems operations in their plants, coincident signals requiring both pressurizer pressure and low levels that they are recommending to all their plant operators to initiate the emergency core cooling system on pressurizer pressure alone, because of the concern that the level indicator may be susceptible to some of the same problems that occurred here.

Also we've found that the auxiliary feed pumps at some Combustion plants did not start automatically on this type of transient, so a meeting is going on in Washington today with Westinghouse and CE, and I would expect a bulletin to go out from Washington covering for their plants the same type of comments that were discovered with B&W.

QUESTION: Could you briefly relate that scenario as was developed here?

DR. DENTON: One of the problems that was developed here was with the performance of the pressurizer level instrumentation during this transient, and Westinghouse, through a telegram, indicated that their reactors may be susceptible to the same erratic pressurizer level performance. 13 168

There were a number of things that went wrong in this accident, and I ticked off before about six items. One was sort of design related, the pressurizer level instrumenta-

operators not to depend upon pressurizer level instrumentation but to initiate action on pressurizer pressure alone.

QUESTION: How is the Westinghouse setup different from the pressurizer gauges in B&W plants?

DR. DENTON: I'll not go into detail on the differences. This is the subject of the meeting in Washington today.

QUESTION: I mean is there a problem with B&W plants that -- in other words, if this directive has gone out to Westinghouse plants, how many reactors have to be modified, and how dangerous a defect is this?

DR. DENTON: Well, I'm not as informed about the Westinghouse and CE problems, except through phone calls back to Washington. They're meeting today with Westinghouse and CE, so all I can really report is that I know that there've been telegrams to Westinghouse plants from Westinghouse that in the event of low pressurizer indications of a pressure which would initiate the emergency core cooling system if you had coincident low pressurizer levels, the operator is to initiate manually and not to rely on the signal.

That's only one of the six factors that go into the accident here, but it's an important piece.

QUESTION: You said apparently the trucks that were

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materials. Were they carrying fissionable materials from Unit 2 or Unit 1?

DR. DENTON: They were carrying materials from Unit 1. They're called evaporator bottoms, it's sludge from the bottoms of the evaporators, after they evaporate the water off. The composition of the material carried to South Carolina meets all the federal standards for shipping of the materials and is, in fact, a typical sort of material that's been shipped out all along.

We have concluded that they probably had some water from Unit 2 go over into Unit 1, that evaporated and got into this, and the radioisotopes that are in that are the same that have gone out from Unit 1 previously.

RAW TRANSCRIPT - UNCORRECTED - 4/11/79

QUESTION: Has any preliminary sample of the primary coolant been performed?

DR. DENTON: I haven't heard back any results from the analysis.

The direct radiation levels -- they were taken on the sample before it was shipped -- were like 17r an hour, whereas the first sample that was shipped off measured the same way, ran 1,000r an hour.

So it indicates that -- the fact that we've added new water to the system that dilutes the radioactivity; and the noble gasses in the water have been decaying off with their halflife of five days or so for certain xenon; one of the radioiodine isotopes has a 20-hour halflife, and it's down quite a bit. The other isotope of iodine has an eight-day halflife. So there's been a large change in the direct radiation level of the sample, apparently, in the water.

QUESTION: What can you infer about core damage from that?

DR. DENTON: Well, we can't infer much about the radiation level itself. But what we are hoping to find when we get the sample back, is what -- does it have traces of uranium in it? Are they volatile fission products only, or are they the less volatile fission products?

So from analysis of the elements in the water, you

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can infer the extent of damage in the core.

And we have one -- the other use we make of the data is in designing the backup systems that I described; you need a bases for the radioactivity in the water, so you can design instruments and seals to withstand that level of radiation.

QUESTION: Are you confirming Unit 2 and Unit 1 water were mixed?

DR. DENTON: It is my understanding from a meeting this morning that it was likely that some small amounts of Unit 2 water did get into the Unit 1 systems at the time, but not a lot.

And in fact, since the isotopes are about the same, you can't physically tell whether they did or not.

QUESTION: The Company has said there is evidence of either a valve malfunction or a seam leakage that occurred on Sunday or Monday; do you know anything about that?

DR. DENTON: I don't have the details.

QUESTION: Yes, sir.

QUESTION: What is your earliest estimate now as to when you can go to solid secondary side steam generator; and once you do that, what's your estimate as to how many days it would be to achieve cold shutdown?

DR. DENTON: Once the degassing or pressure is

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lowered, we think we can get down to -- is completed -- we intend to take a primary coolant sample, pressurized; in other words, a sample that would still have the dissolved gasses in it, and see how effective the degassing period has been.

If it shows that the levels of dissolved gasses are as low as we hope they are, then we can move rather promptly to the next phase of the cool-down.

If it shows that there's still a lot of dissolved gasses and the partial pressure of the gasses is still high, we would probably continue to degas further.

I guess my own estimate is, I would hope that we could bring the bulk core temperatures down within approximately a week from now, bring the bulk core temperatures down to a level of approximately boiling.

QUESTION: With the radiation levels at 3 millirems per hour that you quoted before, and background level radiation near 100 millirems, average, before anything like this happened, that goes out to over 300 times the usual -- somewhere around 300 times the usual radiation.

I was wondering why in the world would you bring the pregnant women and preschoolers back into a situation like this?

DR. DENTON: Well, you have to distinguish between

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the instantaneous peak radiation level under a plume, as it is passing by, and the integrated exposure at any one plot on the ground over a 24-hour period.

QUESTION: Is this a plume, then? Or was it an offsite monitor?

DR. DENTON: Well, on the day of April 9th, there was a reported reading as the plume swept over the "trailer city" or 3 to 4 mr an hour for an open window monitor.

I believe the closed monitor reading at the same time was about a quarter of an mr an hour.

But that's when you are under the plume that moves by.

So what -- the way you have to look at it is to look at all the dosimeters which are in permanent stations around the site, and these are taken and counted every 24 hours.

And that's the group of dosimeters I reported on, that all but three out of the group of 47 showed no levels above background; and the three that did show levels above background were only .03 mr an hour.

So the total maximum exposure above background that anyone would have gotten from being at one of the stations on April 9, was .3 of a millirem.

QUESTION: Oh, it's .03?

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DR. DENTON: Well, that's the difference between the instantaneous peak that we quoted, and that you just mentioned, as the plume moves over, and if the plume stayed in one spot, it would come out like you say.

But the plume meanders around, so what you really have to look at is the dosimeters every 24 hours.

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RAW TRANSCRIPT - UNCORRECTED - 4/11/79

QUESTION: Before this accident was reported, the chances of the accident were very slight.

Based on all the information you have now, what are the chances of another accident like this occurring in other power plants around the United States?

DR. DENTON: I think the chances of another accident like this are very remote. We fix the plants for the kinds of problems that have occurred.

If you look back, you'll find that the plants have gone for about 425 reactor years without ever experiencing fuel damage. This is the first accident in which fuel damage has occurred.

There have been other occasions in plants where we've made changes after learning -- for example, after the fire in Browns Ferry we made necessary corrections to prevent fires so that this type of accident is very unlikely to happen again.

What we'll have to do is see what lessons you can learn from this and apply them to future plants, and that's something that's going to take me awhile after we get back from here and sit down and find out what sort of changes we want to make in the future.

QUESTION: What will happen now to that shipment that was turned back and is now at Three Mile Island?

RAW TRANSCRIPT - UNCORRECTED -- 4/11/79

DR. DENTON: It's sitting now on the island, and I think the individuals and groups involved are trying to work out arrangements with South Carolina.

There is one other burial ground that's available in Nevada that --

QUESTION: How are those negotiations going?

DR. DENTON: They're going on right now.

QUESTION: Mr. Denton, you said essentially that that waste was from TMI-1. Does that mean that there are continually -- that wastes are produced even though it's shut down, or why are they moving it now?

DR. DENTON: Well, waste from Unit 1, there's been this kind of low-level waste ever since Unit 1 has been operating, and it will probably go to Barnwell. It's low-level waste, not high-level waste of the type that goes to federal depositories to be --

QUESTION: But Unit 1 has been down since February, right? Or March?

DR. DENTON: Even so, certain amounts of radioactivity is in the water and the processing or treatment system is running all the time to take it out.

QUESTION: These auxiliary feed pumps, the subject of the discussion in Washington, could you just clarify how that relates to what happened here?

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DR. DENTON: Well, number one, one of the causes of the accident was the fact that the auxiliary feed pumps were valved out of service so they couldn't operate when called upon.

What I mentioned with regard to Combustion Engineering plants was that the design on some of their plants is such that these pumps won't start automatically and have to be manually initiated, and --

QUESTION: So in other words there's two problems: One is the emergency core cooling system doesn't start up, and the other is these feed pumps, or feedwater pumps, don't --

DR. DENTON: But they're in different types of plants. Whereas in the Combustion plants they don't require coincident pressurizer pressure and levels, and they did find CE plants that don't start feed pumps automatically.

QUESTION: The waste that was shipped to South Carolina, was that above normal levels that --

DR. DENTON: No, it met all federal standards. I understand it was turned because the Governor of South Carolina has decided that waste from here shouldn't be accepted in his State.

QUESTION: To what extent would this cause a problem when the time comes for trucking out the waste from unit number 2?

RAW TRANSCRIPT - UNCORRECTED - 4/11/79

DR. DENTON: Well, if it is not accepted in South Carolina it would require that the waste be shipped a much longer distance than to Barnwell, South Carolina.

RAW TRANSCRIPT - UNCORRECTED - 4/11/79

QUESTION: How would that aggravate your schedule?

DR. DENTON: I don't think that this has been looked into enough to determine the effect on schedule.

QUESTION: You said that the B&W plant for cooling reactors down is the best alternative? Is that the decision that has been made?

DR. DENTON: No, that's -- I hope to make that decision Friday, when the Staff has completed its evaluation.

QUESTION: If you make that decision, does this still hold true that you would bring the thing down to boiling temperature or thereabouts in a week?

DR. DENTON: Yuh, assuming that our sample of the primary coolant indicates that the degassing operation really has been effective; that is, if we find a sample that indicates we need to degass the coolant for a longer period of time, we would continue that operation.

QUESTION: You are talking subsequent samples, not the one that was taken?

DR. DENTON: No, the one that was taken was an easier sample to take, and it was not a pressurized sample; so the gasses that were dissolved in it were released before the sample was taken.

QUESTION: So you are talking about a subsequent sample?

DR. DENTON: Yes.

I might mention that in taking that sample, the personnel exposures were quite low, on the order of 20 to 30 millirem per hour, as a result of a lot of preplanning, and as a result of a lower coolant level; so we didn't have to use "Herman" to take that sample.

QUESTION: How will the subsequent taking of samples differ? You say it is complicated? When do you expect that to happen?

DR. DENTON: It would be after we've completed degassing at the 300 psi level.

QUESTION: This shipment that was rejected in South Carolina, is that the same one that was turned back at the borders of Virginia? -- that truckload of nuclear chemicals?

DR. DENTON: I don't know for sure. I haven't heard about the other incident.

QUESTION: Would you go over again, I guess it was the Licensee Event Report to your office yesterday or today -- I didn't understand?

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DR. DENTON: It was a report to us today from GPU, a Licensee Event Report, that says that they found on March 27 that a valve to a steam line that is essential to the operation of one of the auxiliary feed pumps in Unit 1

was in the closed position at a time in their startup process at Unit 1 when the license requires it to be open.

QUESTION: Does that mean Unit 1 was being started up?

DR. DENTON: Well, Unit 1 was in a hot standby condition, where they have to have -- where the coolant temperatures were hot; it doesn't mean that they were actually pulling the control rod at the time. It means that plant conditions were hot.

QUESTION: This is one of three auxiliary feedwater pumps?

DR. DENTON: It's either three or two; I'm not sure. They did have other auxiliary feed pumps that are driven electrically, as opposed to steam turbine.

QUESTION: How did Unit 2 waste get into Unit 1?

DR. DENTON: I don't know for sure how the connection -- how Unit 2 water got into Unit 1; but it's no doubt that in connection with the accident in Unit 2, some of the water in Unit 2 got into systems or sumps in the Unit 1 building; and therefore were mixed with some of the Unit 1 water; and this is evaporated and ended up in sludge.

QUESTION: The other sample you are going to take, that will be the determining sample; is that going to be taken from the narrow plumbing or from a different area? Is that

RAW TRANSCRIPT - UNCORRECTED - 4/11/79

why it is complicated?

DR. DENTON: The complication is you must take it under pressure, as opposed to taking it conventionally; the type of sample that was taken earlier did not have to be at reactor pressure in the cannister in which you take the sample.

So in order to take a pressurized sample we have to use a more complicated kind of cannister and sampling procedure, so it is delivered to the laboratory with the gasses in there that were actually in the water when it's in the reactor vessel.

QUESTION: Might I ask again, if Unit 1 were back in operation today, would you have problems approving that?

DR. DENTON: Yes, I would.

(Whereupon, at 2:56 p.m., the press bringing was concluded.)