

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of §
§
HOUSTON LIGHTING & POWER §
COMPANY § Docket No. 50-466
§
(Allens Creek Nuclear §
Generating Station, Unit §
No. 1) §

STATEMENT OF MATERIAL FACTS
AS TO WHICH THERE IS NO
GENUINE ISSUE TO BE HEARD

(1) Each of the five ECCS pump suction lines will be provided with a strainer assembly designed to guarantee that the largest sized particles that could enter the ECCS system are not large enough to hamper ECCS performance by becoming lodged in small openings in ECCS equipment. (Affidavit, p. 2)

(2) The five ECCS strainer assemblies are designed with three times the open area of the suction piping to provide a high confidence that strainer clogging will not hamper ECCS performance. This assembly design exceeds the requirements of Regulatory Guide 1.1. (Affidavit, pp. 2-3)

(3) All insulation utilized in the drywell will be of the metallic reflective type which is the least likely of all available insulation types to break into small pieces and potentially block the ECCS strainers. (Affidavit, p. 3)

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(4) The location and configuration of the ECCS pump strainer assemblies will further reduce the possibility of blockage. There will be a very low velocity profile in the vicinity of the strainers and they will be located to avoid ingestion of sunken and/or floating debris. (Affidavit, pp. 3-4)

(5) The small amount of insulation utilized in the containment, but outside the drywell, which is not of the metallic reflective type, is extremely unlikely to cause any blockage of the ECCS pumps because the paths to the Suppression Pool from the areas where other insulation will be used, are extremely tortuous. (Affidavit, p. 4)

(6) Applicant has greatly minimized the possibility that paintings and coatings used inside the containment could separate from pipes and cause ECCS blockage by complying with Regulatory Guide 1.54 as described in PSAR, Appendix C. (Affidavit, pp. 4-5)

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IN THE MATTER OF
HOUSTON LIGHTING & POWER COMPANY
(ALLENS CREEK NUCLEAR GENERATING
STATION UNIT 1)

DOCKET NO. 50-466

DEPOSITION OF:

JOHN F. DOHERTY



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1 Q Have you read the PSAR sections on water level
2 indicators?

3 A No -- I don't think so. I don't seem to have
4 any Xerox out of that anyway.

5 Q Do you usually remember when you read things?

6 A I think so.

7 Q All right.

8 A But I am not as good as I used to be.

9 Q In giving your answer to the general question
10 about the design and operation of water level
11 indicators, do you believe that you did read
12 the PSAR sections?

13 A No, I don't.

14 Q John, we'll turn to one that I think we can do
15 in the short time remaining.

16 A All right.

17 Q Number thirteen on the Applicant's containment
18 emergency sump pump. Will you describe for me
19 the ECCS sump that's referenced in this
20 contention?

21 A Well, I don't understand a lot about it. It's
22 at the -- it's at the bottom of the dry well.

23 Q The bottom of the dry well is an ECCS?

24 A There's a way in which water drops. It's
25 collected and piped back into the ECCS for reuse.

- _____ 1 Q All right. And the sump which is the origin
_____ 2 of the water for reuse is the dry well?
- _____ 3 A Beneath the dry well there is a pump?...
- _____ 4 A Yes.
- _____ 5 Q What pump is beneath the dry well?.....
- _____ 6 A It's called a sump pump.
- _____ 7 Q There's a sump pump beneath the dry well which
_____ 8 pumps water?
- _____ 9 A Well, it drains out.
- _____ 10 Q It pumps the water that's draining into the well
_____ 11 out of the dry well?
- _____ 12 A Yes.
- _____ 13 Q All right.
- _____ 14 A It's got to get out of the dry well to a drain.
_____ 15 The dry well is not a closed place. ...It's a
_____ 16 drain.
- _____ 17 Q So it has a drain and there's a pump connected
_____ 18 to this drain and it pumps that water?
- _____ 19 A Up into the ECCS, yes.
- _____ 20 Q What is the ECCS?
- _____ 21 A It's a large storage water system.
- _____ 22 Q A big tank?
- _____ 23 A It's two tanks, I think.
- _____ 24 Q All right.
- _____ 25 A And maybe even more.

1 Q And so this sump pump that you reference in
2 your contention and the sump you reference in
3 your contention is the dry well, and a pump
4 connected to the dry well which pumps water into
5 two large ECCS tanks; correct?

6 A Yes.

7 Q Okay. Which you then use to recycle -- well,
8 where's the end point to the recycling?

9 A The water is pumped back into the reactor.

10 Q Directly into the reactor vessel?

11 A Yes. It's main purpose is that and it pumps
12 at a high pressure in order to overcome the
13 pressure in the vessel itself.

14 Q What is the source of thermal shielding and
15 insulation which is the item of concern in
16 this contention?

17 A What is the source of it?

18 Q Yes, sir.

19 A There's insulation on the piping of the valves
20 and pumps which in the event of a pipe break
21 or whatever, can plug the drain.

22 Q So is insulation and thermal shielding on the
23 pumps and pipes and valves on the dry well, that
24 can fall and plug the dry well drain?

25 A Yes. That would be the most logical place.

1 Q Is there any other source?

2 A Let me think. Let me think.

3 Q What amount of this thermal shielding insula-
4 tion would have to come loose to cause the
5 problem that you described there?

6 A I don't know the answer to that question?

7 Q You don't have any idea what it would take?

8 Would it take the totality of all of that to
9 plug up the drain?

10 A I would think less than that.

11 Q Half?

12 A Perhaps.

13 Q A quarter?

14 A Perhaps.

15 Q You have no idea?

16 A No, I have no idea.

17 Q You know what type of thermal shield or insula-
18 tion is used in the dry well that's susceptible
19 to this fragmentation in subsequent draining?

20 A No.

21 Q Is all thermal shielding and insulation
22 susceptible to this process?

23 A I doubt it.

24 Q Do you know what kind of thermal shielding
25 insulation is used in the Allen's Creek design?

1 A No.

2 Q Do you know whether or not it is the type that
3 is susceptible or nonsusceptible to this type
4 of fragmentation that you described?

5 A I believe it is.

6 Q What is your basis for your belief?

7 A The NRC annual report states that this is a
8 problem.

9 Q Does it state it as a problem at Allen's
10 Creek?

11 A No, it doesn't.

12 Q Well, it says it's a problem where?

13 A Well, it doesn't specify. It's kind of
14 unspecific. It says -- it looks to be any
15 reactor system.

16 Q Any reactor?

17 A Yes.

18 Q All right.

19 MR. NEWMAN: What are you reading
20 from?

21 THE WITNESS: An NRC annual report.

22 MR. NEWMAN: May I see it?

23 THE WITNESS: Sure. Unfortunately
24 the date is not on it. It's one of the recent
25 ones.

1 Q (By Mr. Biddle) That's your only source for
2 assuming that thermal shielding insulation can
3 block the Allen's Creek drain sump or dry well
4 drain?

5 A Well, regulatory guide --

6 Q Excuse me. Does that regulatory guide reference
7 Allen's Creek?

8 A No, none of them do. They never reference
9 plants.

10 Q And what is the relevance of the rate guide to
11 a potential problem at Allen's Creek?

12 A They are to provide methods acceptable to the
13 NRC regulatory staff of implementing specific
14 parts of regulation.

15 Q Is it your contention that Allen's Creek will
16 not comply with that rate guide?

17 A Not yet, no. I would have said that -- principles
18 do not necessarily mean that they will license
19 the aspect anyway.

20 Q Are you contending that compliance with that
21 rate guide is insufficient assurance of the
22 problems you described?

23 A Yes. At this point I am.

24 Q But you have no knowledge of the type or amount
25 of thermal shielding insulation which exists at

1 Allen's Creek?

2 A That's right.

3 Q If it had no thermal shielding or insulation,
4 what would be the basis of your contention?

5 The presence of the rate guide alone is sufficient?

6 A The rate guide seems -- it doesn't seem to
7 indicate that as a possibility.

8 Q Does it reference Allen's Creek?

9 A No.

10 Q So in an attempt to recapitulate again, the
11 source of your concern depends solely on the
12 evidence of the rate guide and an NRC annual
13 report which states that for all reactor types,
14 there may be a possibility of thermal shielding
15 and insulation blocking a dry well drain?

16 A Blockage of the dry well drain is the problem --
17 the regulatory guide speaks of debris.

18 Q Which regulatory guide?

19 A 1.82.

20 MR. NEWMAN: Do you have 1.82 with
21 you?

22 THE WITNESS: Yes.

23 MR. NEWMAN: May I see it?

24 THE WITNESS: Yes.

25 Q (By Mr. Biddle) Am I not correct that the

1 presence of this rate guide or other rate
2 guides and the NRC annual report is the sole
3 actual basis for your assertion that there's a
4 problem at Allen's Creek in blocking up a dry
5 well drain?

6 A I don't know of any publications on this. It's
7 attached in the offices -- it's attached in the
8 nuclear reactor regulation number C-3 so they
9 have apparently thought it had some bearing.

10 Q Do they reference Allen's Creek?

11 A No.

12 Q Do they reference designs similar to the Allen's
13 Creek design?

14 A They don't seem to reference anything to my
15 knowledge.

16 Q Do they give any indication that this test
17 applies to all reactors that encompasses Allen's
18 Creek without exception?

19 A That would be pretty hard.

20 Q Do they or don't they?

21 A At the moment they don't speak about Allen's
22 Creek.

23 Q Do they speak of reactor types? Do they speak
24 of reactor types?

25 A Just a minute.

1 Q I'm sorry.

2 A That's okay. I don't see where they do. There's
3 nothing here.

4 Q Is it conceivable that one reactor type could
5 have a greater problem than another reactor type?

6 A Yes. I would say so, yes.

7 Q And you don't know which category Allen's
8 Creek belongs in?

9 A Right.

10 Q You have no facts in hand to make that differ-
11 entiation?

12 A I have no facts in hand, that's right.

13 Q Could you tell me what significance the ultimate
14 heat sink design -- could you tell me of what
15 significance the ultimate heat sink design
16 or operation has to this contention?

17 A It's my understanding that if there's a
18 failure of the ECCS, there's a way that they
19 can take water directly from the ultimate heat
20 sink and use that.

21 Q All right.

22 MR. NEWMAN: What is the ultimate
23 heat sink at Allen's Creek?

24 THE WITNESS: It's a small depres-
25 sion in the bottom of the coolant.

1 MR. NEWMAN: It's your contention
2 that that would be drawn up for use as an
3 emergency cooling system?

4 THE WITNESS: If the recycling
5 system doesn't function, apparently it's a
6 backup.

7 MR. NEWMAN: All right.

8 Q (By Mr. Biddle) So it really has no direct
9 relation to your intention about the adequacy
10 of ECCS system and it's problems with dry well
11 draining?

12 A Well, I would assume the ultimate heat sink
13 would be considered part of the ECCS system.

14 Q Does this have any correlation in this contention?

15 A It only supports the contention in that -- if
16 the ultimate heat sink is not able to function,
17 then it's more urgent to make certain that it
18 doesn't happen.

19 Q If the ultimate heat sink is not able to
20 function; correct?

21 A Properly, yes.

22 Q How is the functioning of the heat sink in any
23 way connected to the dry well drain or thermal
24 shielding and insulation?

25 A If the water is inaccessible, then a shift has

_____ 1 to be made to another system to get water.

_____ 2 Q This shift you're describing is between ECCS
_____ 3 and the normal heat sink?

_____ 4 A Yes.

_____ 5 Q Okay. But using the ultimate heat sink has
_____ 6 no reference to problems with the dry well drain
_____ 7 or the thermal shield; correct?

_____ 8 A The dry well drain problems will occur inde-
_____ 9 pendent of whether the ultimate heat sink
_____ 10 will happen or not.

_____ 11 Q Or problems with the dry well drain will have
_____ 12 no impact on the heat sink?

_____ 13 A Yes, they will.

_____ 14 Q What's that?

_____ 15 A If one doesn't work, the other will have to be
_____ 16 used.

_____ 17 Q If there's a failure because of the dry well
_____ 18 drain, will it impact the performance of the
_____ 19 heat sink?

_____ 20 A No.

_____ 21 MR. NEWMAN: John, a few moments
_____ 22 ago when I asked you to furnish to me the
_____ 23 document that you were reading from, you
_____ 24 furnished to me an unidentified or a page
_____ 25 from an unidentified document. I have it here

1 in my hand, and I want to be sure that this
2 document is the one that you were referring to
3 as a basis for your contention.

4 THE WITNESS: Was that on this
5 contention?

6 MR. NEWMAN: Yes.

7 THE WITNESS: I don't have a copy
8 of it with me.

9 MR. NEWMAN: Excuse me. That is
10 your document, just in case you forgot.

11 THE WITNESS: This one is mine.
12 All right. What is it you're saying for sure?

13 MR. NEWMAN: Earlier -- well, let's
14 have that document marked for identification.

15 THE WITNESS: No problem.

16
17 (The instrument referred to was
18 marked Doherty Exhibit 1 for identification.)

19
20 MR. NEWMAN. Okay. Back on the
21 record.

22 John, I want to show you Exhibit
23 No. 1 in this deposition and ask you whether
24 this is the document to which you referred as
25 a partial basis for your contention when we

1 spoke a few moments ago?

2 THE WITNESS: Yes -- I mean, I
3 don't understand. I have this right here in
4 the file. I don't know anything about any
5 words.

6 MR. NEWMAN: This is the document
7 I thought you were relying on for part of your
8 contention; correct?

9 THE WITNESS: Right.

10 MR. NEWMAN: And specifically, as
11 I recall you drew our attention to regulatory
12 guide 1.82; correct?

13 THE WITNESS: Right.

14 MR. NEWMAN: So that's a part of
15 your contention as well; correct?

16 THE WITNESS: Well, the contention
17 is as it's worded.

18 MR. NEWMAN: But as a basis for
19 your contention, you pointed to rate guide
20 1.82 as a result of my having looked at it;
21 correct?

22 THE WITNESS: Right.

23 MR. NEWMAN: As I understand it,
24 part of the basis for your contention comes
25 from regulatory guide 1.82; correct?

1 THE WITNESS: No. The contention
2 would have cited the basis if 1.82 were the
3 intention. It may be that this backed that
4 up.

5 MR. NEWMAN: Why don't you take a
6 look at that document and tell me what portions
7 of that document provide a basis for your
8 contention?

9 MR. COPELAND: Off the record.

10
11 (Whereupon there was a discussion
12 held off the record.)

13
14 MR. NEWMAN: Let's go back on
15 the record.

16 For the record, I'd like to note
17 that what we just referred to as Doherty Exhibit
18 No. 1 has been re-numbered as Doherty Exhibit
19 No. 4 for purposes of consistency with prior
20 depositions in this matter.

21 John, when we spoke before about
22 Exhibit No. 4, you, in discussing that mentioned
23 the regulatory guide 1.82 which is discussed in
24 that Exhibit 4; is that correct?

25 THE WITNESS: I think so, yes.

1 MR. NEWMAN: All right. And it's
2 your contention, I take it, that regulatory
3 guide 1.82 applies to the Allen's Creek plant?

4 THE WITNESS: Yes. — —

5 MR. NEWMAN: Okay. For the record,
6 I'd like to note that regulatory guide 1.82
7 applies toward reactors. — — —

8 THE WITNESS: What time do you
9 have? — — —

10 MR. BIDDLE: 11:30. Have we
11 arrived at end of questions at this point?

12 MR. NEWMAN: There's one final
13 series I'd like to have. — — —

14 Off the record. — — —

15
16 (Whereupon there was a discussion
17 held off the record.) — — —

18
19 Q (By Mr. Biddle) One last question, John. On
20 this ECCS sump business, you don't have an
21 expert witness on the ECCS design and operation;
22 is that correct? — — —

23 A That's correct. — — —

24 Q And do you hold yourself out as an expert on
25 the ECCS sump design and operation?

_____ 1 A No, I don't hold myself out as an expert.

_____ 2 Q All right. Then we'll resume again tomorrow
_____ 3 morning at 9:00.

_____ 4 A You want to resume at 9:00? Okay. I can go
_____ 5 through the whole day.

_____ 6 Q All right.

_____ 7

_____ 8

(Whereupon the proceedings were
recessed until 9:00 a.m. on
November 20, 1979.)

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