

1 UNITED STATES OF AMERICA
2 NUCLEAR REGULATORY COMMISSION

3
4 INVESTIGATION OF
5 DIABLO CANYON UNITS 1 & 2

6
7 INTERVIEW OF
8 PAUL H. ANDERSON

9
10 Robert L. Cloud Associates
11 125 University Avenue
Berkeley, California

12 Thursday
13 December 31, 1981

14 The above-entitled matter came on for hearing,
15 pursuant to notice, at 3:08 p.m.

16
17 APPEARANCES:

18 On behalf of the NRC Staff:

19 OWEN C. SHACKLETON, JR., Moderator

20 PHILIP J. MORRILL
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ERRATA SHEET

Interview of Paul H. Anderson, December 31, 1981

The following correction should be made:

- ° Page 5, Line 21 - Change til to until.

The above correction was identified by Paul H. Anderson and Owen C. Shackleton, Jr.

P R O C E E D I N G S

3:08 p.m.

MR. SHACKLETON: The date is December 31, 1981. The time is 3:08 p.m. This is an interview of Mr. Paul H. Anderson. Mr. Anderson is an engineer employed by Robert L. Cloud & Associates, Inc. This interview is taking place in the offices of Robert L. Cloud & Associates, Inc., at 125 University Avenue, Berkeley, California.

This is the second interview of Mr. Anderson and he has already been sworn in.

Whereupon,

PAUL H. ANDERSON

was recalled as a witness and, after being reminded he was still under oath, was examined and testified further as follows:

MR. SHACKLETON: Do you also understand, Mr. Anderson, that you have the right to have personal legal counsel necessary?

MR. ANDERSON: Yes, I do. That won't be necessary.

MR. SHACKLETON: Thank you. And again, I request and ask that you understand that we are asking that you keep your testimony confidential.

MR. ANDERSON: I understand.

MR. SHACKLETON: Very fine. Mr. Anderson, how

1 long have you been employed with Robert L. Cloud & Asso-
2 ciates, Inc.?

3 MR. ANDERSON: I joined Dr. Cloud's company
4 around November, 1980.

5 MR. SHACKLETON: And are you presently working
6 on the contract on the reverification program for the
7 Pacific Gas & Electric Company concerning their Diablo
8 Canyon nuclear power plant?

9 MR. ANDERSON: Yes. I've been involved with
10 this contract since it first came about, around October 11.

11 MR. SHACKLETON: Were you involved in the prepar-
12 ation of the October 21, October 26, November 6 and November
13 12, 1981 draft reports which you people refer to as the
14 preliminary report?

15 MR. ANDERSON: Yes, I was.

16 MR. SHACKLETON: Were you involved in the revi-
17 sion of the October 21, October 26, November 6 draft
18 reports?

19 MR. ANDERSON: Yes, I was.

20 MR. SHACKLETON: What were the original instruc-
21 tions provided to Cloud employees by Dr. Cloud or by PG&E
22 to perform the development of the report and the handling
23 of its comments?

24 MR. ANDERSON: We received our instructions from
25 Dr. Cloud. Our basic instructions broke down various

1 responsibilities to examine the chain of design for various
 2 aspects of the plant, breaking it down into different types
 3 of buildings and et cetera. We formed a little internal
 4 task team where each engineer or groups of engineers were
 5 assigned the responsibility of developing the flow of
 6 information and examining the existing qualification for
 7 a number of these areas.

8 We first started out with the intent of searching
 9 the correspondence between PG&E and URS/Blume to determine
 10 what controls and what documentation existed. This would
 11 directly relate to the engineering correctness of the
 12 analyses that took place. Our interface with PG&E was they
 13 were to provide us with documentation as we required it.

14 Now in the preliminary stages, from October 11
 15 to October 21, we essentially set up office inside PG&E
 16 in one of their conference rooms and went through volumes
 17 of file information, trying to document the things we were
 18 setting out to examine, to document exactly what had
 19 transpired in the design flow. One of the problems we had
 20 as far as information available is that this project is of
 21 a magnitude that there is obviously too much material to
 22 completely assimilate in a short time. We utilized PG&E's
 23 cognizant engineers to help us locate the specific documents
 24 we were looking for at times.

25 Maybe I am saying too much. I don't want to sit

1 here and ramble on.

2 MR. SHACKLETON: No. This is very helpful for
3 the Commission to understand exactly what the responsibil-
4 ities were for your company and the procedures that you had
5 to follow and the interface that was required in order to
6 obtain the necessary information for your study. So please
7 continue.

8 MR. ANDERSON: Okay. Basically I am talking
9 about the research done in preparation for the first
10 draft, which is the draft prepared on October 21. The
11 results of that draft showed there were several areas
12 which we had either found conflicting information docu-
13 mentation or had not found sufficient information docu-
14 mentation. In our first preliminary draft of the 21st
15 we tried to stay away from any personal conclusions or
16 conclusions as told to us by PG&E engineers.

17 What we did try to do is state the information
18 we had received thus far, which sometimes was incomplete.
19 From my own personal standpoint, the effect that seemed
20 to have was to create a priority with PG&E to supply us
21 with the information we needed. Up til then I could say
22 that perhaps we hadn't been given a real priority treatment
23 in all of the information we needed. When the October 21
24 draft was given to PG&E a lot of these areas which we had
25 just been unable to find sufficient information, these

1 areas were commented on by the cognizant PG&E engineers.

2 Now the engineers made several types of comments.
3 They either made comments to the effect of "there is more
4 information and I will help you find this information" or
5 perhaps "that is not my understanding of it". Now when
6 they made the comment that there is additional information,
7 we searched the information and, if we found it, we utilized
8 it and documented it.

9 On the other hand, if someone were to say this
10 particular area is just not true, our response was fine,
11 show me the documentation, such that the report of the
12 26th in effect reflected our gathering of a little more
13 information. That is basically the only difference, to my
14 recollection.

15 MR. SHACKLETON: Were all the verbal comments
16 that you received, were they documented? When I say verbal
17 comments I am referring to directions or requests or comments
18 that related to requests for revisions.

19 MR. ANDERSON: Basically we had a surprisingly
20 little amount of verbal interface with PG&E. In the
21 initial stage, from the October 11 to October 21, we were
22 functioning as our own little self-contained task group
23 and no one seemed to pay much attention to us. Indeed, that
24 was part of the problem. From the October 21 and subsequent
25 work, we performed all of that work in our own office and

1 primarily formally interfaced through PG&E or interfaced
2 through Dr. Cloud. We had some level of informal communica-
3 tion merely following up researching some of the areas that
4 we had already identified in the first draft.

5 In the first draft and I believe the subsequent
6 drafts we fairly across the board address all of the holes,
7 all of the areas of concern, either by providing substan-
8 tiating documentation, which we should have on file, or
9 in the cases that we don't have enough information we have
10 stated either that this will have to be addressed in a more
11 detailed scope, such as the second phase of the reverifica-
12 tion program.

13 MR. SHACKLETON: What you are stating then, if I
14 understand you correctly, Mr. Anderson, these were made
15 open items.

16 MR. ANDERSON: Yes.

17 MR. SHACKLETON: Within your draft report.

18 MR. ANDERSON: And well defined as open items.

19 MR. SHACKLETON: Mr. Anderson, were you encour-
20 aged at any time or directed by anyone to change any of your
21 original findings?

22 MR. ANDERSON: If you define a finding as something
23 that is wrong, certainly not.

24 MR. SHACKLETON: That's the main point that we
25 are looking towards.

1 MR. ANDERSON: The only thing I might add is
2 there were holes where we did not have information and,
3 in this case, PG&E engineers did make comments and did
4 request that we find the additional information and examine
5 it.

6 MR. SHACKLETON: In the course of writing your
7 sections of the drafts that we are discussing here, did
8 you ever make any changes without substantiating documenta-
9 tion? I'm talking about substantive changes, not just in
10 grammar or punctuation.

11 MR. ANDERSON: I either had substantiative
12 documentation or I explicitly qualified the change, such
13 as pending all subsequent investigation. The qualification
14 would be in the report.

15 MR. SHACKLETON: I understand from testimony we
16 have received that this has been a very intensive effort
17 on the part of yourself and the other engineers here at
18 Robert L. Cloud & Associates, Inc. Do you feel, Mr. Anderson,
19 that your staff that you are associated with on this reverif-
20 ication study for the Diablo Canyon nuclear power plant,
21 that you have been able to work with a free hand and to
22 freely express your true findings without any interference?

23 MR. ANDERSON: Within my own company certainly.
24 As a professional, I feel I would have to insist on freedom.
25 I wouldn't be here if I didn't have the freedom.

1 MR. SHACKLETON: Are you satisfied then, Mr.
2 Anderson, with the contents of the preliminary report dated
3 November 12, 1981?

4 MR. ANDERSON: I am satisfied as to the validity
5 of the facts stated in the report. There are certain open
6 items which are qualified in the report as requiring to be
7 addressed later. There are items which we did not get
8 enough information on that a subsequent program has been
9 developed to address. With that exception -- that has some
10 bearing on my overall impression of the first program, if
11 you can understand my point.

12 MR. SHACKLETON: Yes.

13 Mr. Morrill, do you have any questions?

14 MR. MORRILL: Yes. Mr. Anderson, did you receive
15 any verbal comments from people other than PG&E, such as
16 from Blume or Westinghouse or any of the other contractors
17 that you might have interfaced with?

18 MR. ANDERSON: We certainly had some level of
19 interface with both Westinghouse and URS/Blume. As far as
20 the type of interface where they commented on the contents
21 of our report or the things that we had found, I wouldn't
22 say I had any of that type of interface.

23 MR. MORRILL: Thank you.

24 MR. SHACKLETON: Mr. Anderson, going back in
25 review of the questions that we have asked and the responses

1 that you have made, are there any comments that you would
2 like to add to your testimony?

3 MR. ANDERSON: Merely I would like to emphasize
4 or restate that I feel both personally and as a company
5 to have performed a conscientious job in preparing all the
6 reports, all the drafts of the preliminary report, and that
7 I feel upon scrutiny of the various drafts it should be
8 an obvious conclusion that the type of development occurring
9 through the drafts was an actual accumulation of information,
10 accumulation of knowledge, and that is all.

11 MR. SHACKLETON: Mr. Anderson, is there any
12 additional information relating to this seismic reverifica-
13 tion study that you would like to make a matter of record
14 at this time?

15 MR. ANDERSON: I don't believe so.

16 MR. SHACKLETON: Mr. Anderson, on behalf of the
17 Commission, we thank you very much for your testimony here
18 and the time that you have given to us. The time is now
19 3:27 p.m., going off record.

20 (End of interview)
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