

300 7TH STREET, S.W. REPORTERS BUILDING, WASHINGTON, D. C. 20024 (202) 554-2345

1 UNITED STATES OF AMERICA  
2 NUCLEAR REGULATORY COMMISSION

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4 In the Matter of: :  
5 SACRAMENTO MUNICIPAL UTILITY DISTRICT : Docket No.  
6 (RANCHO SECO) : 50-312  
7 ----- -x

8  
9 Conference Room W-1140  
10 United States Federal Building  
11 2800 Cottage Way  
12 Sacramento, California

13 Wednesday, May 14, 1980

14 The above-entitled matter came on for hearing,  
15 pursuant to recess at 9:00 a.m.

16 BEFORE:

17 ELIZABETH S. BOWERS, CHAIRMAN  
18 DR. RICHARD F. COLE, MEMBER  
19 MR. FREDERICK J. SHON, MEMBER

20 APPEARANCES:

21 On Behalf of the NRC Staff:

22 STEPHEN LEWIS, ESQ.  
23 RICHARD F. BLACK, ESQ.  
24 Office of Executive Legal Director  
25 Washington, D.C. 20555

On Behalf of SMUD:

THOMAS A. BAXTER, ESQ.  
MATIAS F. TRAVIESO-DIAZ, ESQ.  
MS. NANCY KNOWLES  
Shaw, Pittman, Potts and Trowbridge  
1800 M Street, N.W.  
Washington, D.C.



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APPEARANCES, Continued:

On Behalf of the California Energy Commission

CHRISTOPHER ELLISON, ESQ.  
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<u>WITNESS</u>	<u>DIRECT</u>	<u>CROSS</u>	<u>BOARD EXAM</u>	<u>REDIRECT</u>	<u>BOARD CROSS</u>	<u>RECROSS</u>
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D. G. Hinckley )	) 4229	4234	4270	4276	-	4278
J. E. Gagliardo)						

<u>EXHIBIT</u>	<u>DESCRIPTION</u>	<u>IDEN</u>	<u>REC'D</u>	<u>WITHDRAWN</u>
CEC 39	NRC Investigation Report	-	4188	-

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P R O C E E D I N G S

1 MRS. BOWERS: Is the Staff ready?

2 MR. BLACK: Has he been sworn?

3 Whereupon,

4 PHILIP J. MORRILL

5 was called as a witness by counsel for the NRC Staff and,  
6 having been duly sworn, was examined and testified as  
7 follows:  
8

## 9 DIRECT EXAMINATION

10 BY MR. BLACK:

11 Q Could you state your name and position with the  
12 NRC, please?13 A My name is Philip Morrill. I am a reactor  
14 inspector with Region V of Inspection and Enforcement.15 Q Do you have before you a copy of your prefile  
16 testimony in this proceeding?

17 A Yes, I do.

18 Q Do you have any additions or corrections to that  
19 testimony?

20 A No, I do not.

21 Q Sir, is there a statement of professional qualifi-  
22 cations attached to that testimony?

23 A Yes, there is.

24 Q Is this testimony correct to the best of your  
25 knowledge?

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1 A Yes, it is.

2 Q Do you adopt it as your testimony in this  
3 proceeding?

4 A I do.

5 MR. BLACK: Mrs. Bowers, at this time we would  
6 like to move the testimony of Philip J. Morrill on training  
7 of unlicensed plant operators to be incorporated into the  
8 record as if read, and constitute evidence on behalf of the  
9 Regulatory Staff.

10 MRS. BOWERS: Mr. Baxter?

11 MR. BAXTER: No objection.

12 MRS. BOWERS: Mr. Ellison?

13 MR. ELLISON: No objection.

14 MRS. BOWERS: The document you have just identified  
15 will be physically incorporated in the transcript as if read  
16 and is admitted into evidence.

17 (The document referred to follows.)

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

SACRAMENTO MUNICIPAL UTILITY  
DISTRICT

(Rancho Seco Nuclear Generating  
Station)

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Docket No. 50-312 (SP)

NRC STAFF TESTIMONY OF PHILIP J. MORRILL  
ON TRAINING OF UNLICENSED PLANT OPERATORS

(Board Question 34)

Q1. Please state your name and your position with the NRC.

A. My name is Philip J. Morrill and I am a reactor inspector at the Inspection and Enforcement Office, Region V.

Q2. Have you prepared a statement of your professional qualifications?

A. Yes.

Q3. Is that statement attached to this testimony?

A. Yes.

Q4. Please state the purpose of this testimony.

A. The purpose of this testimony is to respond to Board Question 34:

Board Question 34

"Rancho Seco, being a Babcock and Wilcox designed reactor, has not adequately trained unlicensed operators to respond to orders necessary for action which would be required in the event of loss of feedwater transient, and therefore is unsafe and endangers the health and safety of Petitioners, constituents of Petitioners and the public."

Q5. Please state the nature of responsibilities you have had with respect to the Rancho Seco Generating Station.

A. As a reactor inspector, I have assisted in several inspections at Rancho Seco over the last three years. After the Three Mile Island accident, I was one of several inspectors who maintained surveillance at Rancho Seco. In mid-June 1979, in response to anonymous allegations related to training of unlicensed operations personnel, the Regional Office assigned me the task of following-up on the allegations. I am currently responsible for monitoring SMUD's response to Inspection and Enforcement Bulletin 79-14, "Seismic Analyses for As-built Safety-Related Piping Systems."

Q6. Please explain what functions are performed by unlicensed operations personnel at Rancho Seco.

A. The unlicensed operations personnel at Rancho Seco belong to the Operations Division, as do the licensed operators. Basically, the licensed operators operate the plant and supervise the unlicensed personnel who assist them.

Parts 50 and 55 to Title 10 of the Code of Federal Regulations require operators of nuclear power plants to be examined and licensed by the Nuclear Regulatory Commission (NRC) prior to manipulation of reactor controls which directly affect reactivity or power level. Unlicensed personnel are allowed to manipulate apparatus and mechanisms which may affect reactivity and power level of nuclear power plants only under the direct supervision of a licensed operator present at the controls and only for purposes of training such individuals to obtain necessary experience to become licensed.

The Technical Specifications for Rancho Seco (Paragraph 6.2.6) require unlicensed persons on shift to assist the licensed operators. These unlicensed personnel assist the licensed operators by starting and stopping motorized equipment, opening and shutting valves, conducting periodic maintenance or checking of equipment, and maintaining plant records. These various activities are directed by and supervised by the licensed operators who assist the unlicensed personnel, if necessary. Written procedures are located at equipment operating stations to instruct these personnel in their assigned tasks. The unlicensed operations personnel are placed in one of three categories according to their experience and competence. The least experienced personnel are "power plant helpers" who are initially assigned to receive on the job training from more experienced personnel and to do odd jobs around the plant. As these personnel become more knowledgeable and experienced, they are assigned greater responsibility for equipment operation by the senior licensed operator on that shift. After approximately a year,

a power plant helper may become an "Equipment Attendant" who is generally responsible for working with equipment in the non-safety related portions of the plant. After an additional time of about one year, the unlicensed person may become an "Auxiliary Operator" who usually operates equipment in safety related areas of the plant. These assignments are generally on the basis of seniority, performance (as evaluated by Rancho Seco management) and availability of that job position. Normally, there are between 3 and 7 unlicensed operations personnel on a shift depending on what plant evolutions are planned.

- Q7. As part of your responsibilities, have you become familiar with the training given by SMUD to unlicensed operations personnel at Rancho Seco?
- A. Yes, I have. Following the Three Mile Island accident, the NRC required licensees to conduct additional training for licensed operators which is described in E Bulletin No. 79-05 (Series). Some training was also required by SMUD for the other Operations Division personnel at Rancho Seco. After all this training was completed, the NRC received an anonymous allegation (on June 18, 1979) that training of unlicensed Operations Division personnel was inadequate. As an inspector from Region V, I interviewed approximately 50% (15) of the people in this category to determine the validity of the allegations, their effect on plant safety, and whether any items of noncompliance with NRC regulations existed. I also examined the training program and records for newly hired Operations Division personnel and interviewed the Training



Coordinator and Operations Supervisor to verify that the licensee's training procedures and requirements for newly hired Operations Division personnel were being followed.

Q8. Please describe that training.

- A. For licensed operators, the training was to demonstrate the instrument response to a Three Mile Island type accident and to rehearse the procedures which would be followed to deal with that type of event.

The "Auxiliary Operators" were trained to establish remote phone communications with the control room and to locally control certain auxiliary feedwater valves in the event the licensed operators needed this assistance.

At Rancho Seco newly hired Operations personnel are required to participate in a "New Employee Orientation Program." This program consists of five major portions described below.

- (a) Security - Covering access control, badging and escort requirements.
- (b) General Radiation and Emergency Response - Covering radiation dose limits, use of step-off pads, significance of radiation warning signs and barrier tapes, as well as employee's response to emergency signals.



- (c) Safety and Fire Protection - Covering the "Rancho Seco Safety Manual," accident prevention, first aid facilities, protective clothing and equipment, mechanical and electrical barrier tapes, fire safety, and fire fighting actions and equipment.
- (d) Basic Radiation Control - Covering radiation, personnel dosimetry, dose limits, measurement of radiation, and contamination levels, protective measures and emergency responses.
- (e) Tour of the Facility - In company with the employee's supervision, covering at least his/her work area and location of emergency assembly points.

After this training is completed, the unlicensed operations person is assigned to a shift to receive on-the-job training from licensed operators and experienced unlicensed operations personnel. The Shift Supervisor and the person him/herself are responsible for this on-the-job training. The Shift Supervisor evaluates the individual's capabilities to operate plant equipment. At the same time, all personnel in the Operations Division (both licensed and unlicensed) are required to participate in a training program consisting of eight training modules described below.

- (a) Plant Procedure Training - As a minimum, this includes work requests, administrative clearance procedures, abnormal tag procedure and reporting of reportable occurrences (within 6 months and every 12 months thereafter).

- (b) Security Training - Deals with the security plan (within 3 months and every 24 months thereafter).
- (c) Quality Assurance Training - Deals with the regulatory requirements of 10 CFR 50, Appendix B and SMUD's QA program and procedures (within 6 months and every 24 months thereafter).
- (d) First Aid Training (within 12 months and every 36 months thereafter).
- (e) Respiratory Protection Training - Use of masks and air supply devices (within 6 months and every 24 months thereafter).
- (f) Fire Protection Training - Deals with the "Fire Protection Plan" and how to fight in-plant fires (within 6 months and per the fire protection action plan thereafter).
- (g) Plant Change Review - To review changes made to the plant (every 24 months).
- (h) Radiation Protection Training (every 12 months).

The Operations Supervisor can make additions or modifications as he deems appropriate.

When the unlicensed operations person is assigned to a shift, he or she is also given a set of self-instruction booklets dealing with basic engineering and physics concepts. The person's advancement to "Equipment Attendant," "Auxiliary Operator," or in-training-for-licensed-operator is based in part upon satisfactorily completing portions of this course.

As a consequence of my investigation/inspection of SMUD's training of unlicensed operations personnel, three concerns were identified and brought to the attention of SMUD management on June 22, 1979. These were:

- (a) Some unlicensed Operations Division personnel desired more training on the operations of the condensate polishers: (Non-safety related equipment).
- (b) One unlicensed Operations Division person had not received training relative to communication procedures and local control of auxiliary feedwater valves following a loss of feedwater.
- (c) Uncontrolled copies of non-safety related procedures were being used at two auxiliary watch stations.

The licensee responded to the above comments and completed corrective action on these items by June 25, 1979. Specifically, training sessions and in-plant training for the condensate polishers were given to all unlicensed Operations

Division personnel. Training dealing with communications procedures and local control of auxiliary feedwater valves was given to personnel who were required to have that training, and uncontrolled copies of procedures were replaced with controlled copies.

Q9. Have you formed an opinion as to whether SMUD has adequately trained unlicensed operators to respond to orders necessary for actions which would be required in the event of a loss of feedwater transient?

A. Yes.

Q10. What is that opinion?

A. The unlicensed operations personnel are adequately trained to receive directions from the licensed operators through the plant communications system to carry out the necessary equipment manipulations in the event of a loss of feedwater transient.

PHILIP J. MORRILL  
PROFESSIONAL QUALIFICATIONS  
REGION V - WALNUT CREEK, CALIFORNIA  
OFFICE OF INSPECTION AND ENFORCEMENT

My name is Philip J. Morrill. I am employed by the United States Nuclear Regulatory Commission as a reactor inspector in the Reactor Operations and Nuclear Support Branch, Office of Inspection and Enforcement, Region V, Walnut Creek, California. My primary responsibility in this position is the inspection of nuclear power plants during the operating phase to determine compliance with NRC rules and regulations.

I received a Bachelor of Science degree from the U.S. Naval Academy in 1966. I was employed by the U.S. Navy in the Naval Nuclear Power Submarine program from 1966 until 1971. During this time, I became qualified as Engineering Officer of the Watch for the AIW pressurized water nuclear propulsion plant prototype and was later qualified as Engineering Officer of the Watch on board the USS John Marshall (SSBN 611 (G)), a nuclear powered polaris missile submarine (1969 through 1971). I was also the ship's Main Propulsion Assistant (responsible for maintenance and administration of the nuclear reactor and power generation equipment) for one and one-half years of this time. In 1971, I joined the Bechtel Corporation in San Francisco, California and was assigned to the Susquehanna Steam Electric Station project mechanical group. From August 1971 through September 1972, I was responsible for the design and development of the radioactive waste disposal system. From September 1972 through January 1974, I was assigned duties of the project licensing engineer. From January 1974 through March 1976, I was the project nuclear group leader responsible for managing and supervising the efforts of 8 to 10 engineers.

In March 1976, I was hired by the U.S. Nuclear Regulatory Commission, Office of Inspection and Enforcement, Region V, in Walnut Creek, California, as a reactor inspector for the Reactor Construction and Engineering Support Branch. In this position, I participated in several construction inspections of the San Onofre Nuclear Generating Station and successfully completed a nondestructive examination school at Convair Division of General Dynamics. (San Diego, California), as well as a quality assurance and inspection course in Bethesda, Maryland. In January 1977, I transferred to the Reactor Operations and Nuclear Support Branch of Region V, Office of Inspection and Enforcement and was assigned as back-up inspector for the Trojan Nuclear Plant. In succeeding months I participated in inspections of the Rancho Seco, Humboldt, and Trojan nuclear plants in addition to completing five weeks of pressurized water reactor systems and operations training. For about one year I was then assigned as principal inspector for the Trojan Plant. In the fall of 1978, my assignment was again changed to follow-up the preoperational testing of the Diablo Canyon Nuclear plant. Although these have been my principal assignments, I have participated in a variety of research and power reactor inspections during the last two years.

I am presently a registered Professional Mechanical Engineer and Nuclear Engineer in the State of California.

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1 MR. BLACK: The Staff has no supplemental direct  
2 and Mr. Morrill is available for examination.

3 MRS. BOWERS: Mr. Baxter?

4 MR. BAXTER: I have no questions.

5 MRS. BOWERS: Mr. Ellison?

6 CROSS EXAMINATION

7 BY MR. ELLISON:

8 Q Mr. Morrill, could you briefly describe how you  
9 became acquainted with the training of unlicensed operators  
10 at Rancho Seco?

11 A Yes. Following the Three Mile Island accident,  
12 several of us were conducting additional surveillance of the  
13 Rancho Seco facility. During the period of time I was  
14 assigned to Rancho Seco, the NRC received some anonymous  
15 allegations that were related to unlicensed operations  
16 personnel training.

17 I was asked to follow-up the allegations. In the  
18 process of following up the allegations, I had occasion to  
19 examine the unlicensed operator training, and to discuss  
20 this with about 50 percent of the unlicensed operations  
21 personnel.

22 Q That is the investigation you referred to in your  
23 testimony beginning on page 4, is that correct?

24 A That is correct; the bottom of page 4 of my  
25 testimony. It starts to describe it.



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1 Q You have a copy of a document that has been  
2 identified as CEC-39 in this proceeding, a letter from the  
3 NRC signed by J. L. Crews to the Sacramento Municipal  
4 Utility District, subject: NRC investigation at Rancho  
5 Seco, dated August 1, 1979?

6 A Yes, I have a copy of that also.

7 Q That is the report of the investigation you are  
8 referring to?

9 A That is correct.

10 Q We will return to that later. Is that the basis  
11 for your discussion of unlicensed operator training in  
12 your testimony?

13 A Yes. My examination and investigation is the  
14 basis for my testimony.

15 Q Do you know whether the unlicensed operator training  
16 program at Rancho Seco has changed since your investigation?

17 A No, I do not.

18 Q Referring to the bottom of page 2 of your testimony  
19 in the last sentence, you state: "Basically, the licensed  
20 operators operate the plant and supervise the unlicensed  
21 personnel who assist them."

22 Is it your understanding that the activities of  
23 unlicensed personnel are always conducted under the direct  
24 supervision of licensed personnel?

25 A Yes. The licensed operation people direct the

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1 unlicensed operators to perform maintenance or operate  
2 equipment. Should there be any difficulty, to the best of  
3 my knowledge, the unlicensed personnel would get the help  
4 of a licensed operator and continue on with whatever the  
5 duty was that was assigned.

6 So, I would say, yes they are directly supervised.

7 Q If I were to define "directly supervised" do you  
8 mean that a licensed operator was always physically observing  
9 the activities of an unlicensed operator, would your answer  
10 be the same?

11 A Well, if you define it as always being physically  
12 present and watching, I would say no. They are not always  
13 physically present and watching.

14 Q At the top of page 3 of your testimony, the second  
15 sentence, are the manipulations that you are referring to  
16 those that would ordinarily take place in the control room?

17 A That is correct. That is where I would expect  
18 those kind of manipulations to take place.

19 Q The direct supervision that you are referring to  
20 in that sentence would be of what sort?

21 A In that situation, I would expect the unlicensed  
22 operations person to be observed with a licensed operator  
23 present. In other words, a licensed operator watching the  
24 unlicensed person.

25 Q In the next paragraph, on page 3, the second sen-



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1 tence, you give examples of some of the activities of  
2 unlicensed personnel assisting licensed operators by  
3 starting and stopping motorized equipment, opening and shut-  
4 ting valves, and so on.

5           Would starting and stoppin morotized equipment  
6 include equipment such as the diesel generators?

7           (Pause.)

8           A     I would say yes.

9           Q     Would opening and shutting valves include equipment  
10 such as the auxiliary feedwater system?

11          A     Yes. I would say yes.

12          Q     What plant records are maintained by unlicensed  
13 personnel?

14          A     I am speaking from memory now, so the names may  
15 not be exact. I will try to convey them -- the meaning of  
16 the kind of records that I recall seeing at the plant.

17                Basically, logs for watch stations to keep track  
18 of what was done, maintenance requests, or requests for  
19 maintenance for pieces of equipment, perhaps tags for  
20 abnormal conditions of equipment or things that needed to  
21 be repaired, or changed. THAT is all that comes to mind at  
22 the moment.

23          Q     Would an unlicensed operator, at times, be  
24 responsible for ensuring that tags were placed in the control  
25 room to indicate maintenance activities for other unusual

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1 conditions on equipment outside the control room?

2 A I'm sorry. Tags placed in the control room?

3 Q In the control room or shift supervisor's office  
4 to alert licensed personnel to activities outside the  
5 control room.

6 A Well, I think the unlicensed operating people might  
7 place the tags, but I think it would be at the direction of  
8 the licensed operators. As I understand that kind of a  
9 process, if there were a problem out somewhere in the plant  
10 and one of the unlicensed people found it, they would report  
11 it and then the licensed people would make the decision what  
12 to do next.

13 If it were necessary to put warning tags or caution  
14 tags or this kind of thing on it, then they would have the  
15 unlicensed person come back to the control room, fill out  
16 the appropriate paperwork, and get the tags and go out and  
17 place them on the equipment, and report back when that was  
18 done.

19 MR. SHON: Mr. Ellison, I think you were thinking  
20 in terms of the lockout valve tags, weren't you? That we  
21 heard discussed a while ago.

22 MR. ELLISON: Among others, yes.

23 MR. SHON: I am not sure that Mr. Morrill had the  
24 benefit of hearing the testimony we did the other day that  
25 would have focused his attention on that kind of an operation.

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1 It may be that he was not thinking in that direc-  
2 tion. do you know how the lockout valve tag system works,  
3 Mr. Morrill?

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4 THE WITNESS: No, sir. I do not recall that.

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5 BY MR. ELLISON: (Resuming)

6 Q Would it be among the duties of unlicensed person-  
7 nel to do routine inspections of equipment outside the  
8 control room?

9 A Yes. I would expect them to inspect equipment.

10 Q Would it be more generally the case that unlicensed  
11 personnel would be given that sort of responsibility as  
12 opposed to licensed personnel?

13 A I really do not know.

14 Q In the next sentence, you state that various  
15 activities are directed by the licensed operators to assist  
16 the unlicensed personnel if necessary.

17 Who would determine that assistance was necessary --  
18 let me rephrase my question. Would it ordinarily be the  
19 case that the unlicensed operator, if he felt he needed  
20 assistance, would have the responsibility to ask for it?

21 A Yes, I would expect that to be the situation. In  
22 talking with the unlicensed -- when talking with the  
23 unlicensed operatoing people, I couched that question to  
24 them also -- you know -- what would you do if you ran into  
25 a situation where you did not know how to carry out what you

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1 were told to do, or you ran into some unanticipated  
2 difficulty?

3 They responded that they would get help from one  
4 of the licensed operators or from the shift supervisor, who  
5 of course, would be a senior licensed operator.

6 Q Moving on to the next sentence, can you tell me  
7 whether the activities of unlicensed operators are always  
8 governed by written procedures?

9 A Well, let me put it this way. Activities that  
10 entail operating complicated equipment, I would expect to  
11 have some sort of procedure. Such things as -- such fairly  
12 simple things as opening or shutting a valve by opening or  
13 shutting the hand wheel, I would not expect there to be a  
14 procedure for something like that.

15 Like I say, a lot of the activities are fairly  
16 mundane. They do not really lend themselves to a procedure.  
17 So, what you find is for large systems or complicated  
18 pieces of equipment, there is generally some form of  
19 procedure to tell the person the sequence of operating for  
20 starting it up or shutting it down, or doing whatever one has  
21 to do with such a device.

22 Q In your answer, on a couple of occasions, you have  
23 used the words that you "would expect this." Do you have  
24 personal knowledge with respect to what activities of  
25 unlicensed operators are governed by written procedures and

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1 what ones are not?

2 A Well, I suppose I have to say no, as of this  
3 moment, in as much as I have not examined Rancho Seco in  
4 quite a long period of time. All I can do is generalize,  
5 based on my memory right now.

6 Q Okay. During your investigation, did you system-  
7 atically go through the tasks that unlicensed operators  
8 would be asked to do and attempt to discern whether they  
9 were governed by written procedures or not?

10 (Pause.)

11 A No, I did not examine any particular -- any indivi-  
12 dual procedure or conduct a walk through of any given  
13 procedure. I looked at some procedures and I talked with a  
14 large number of these unlicensed operating people.

15 Q You mentioned that written procedures are located  
16 at equipment operating stations. Could you describe what  
17 you mean by "equipment operating stations"; and if you  
18 can, give us some idea of how many of them there are?

19 A Well, the equipment operating stations are generally  
20 the areas where one or more unlicensed operations people do  
21 most of their work.

22 For example, most of the condensate polishers,  
23 there is sort of a small enclosure, like a building within  
24 the building of the plant that is soundproof and has a  
25 couple of desks in it and chairs, and has some procedures in



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1 it for the equipment in the plant; and has other equipment  
2 that the people might need in their work.

3 They can go in there and in a fair amount of  
4 quiet, they can do whatever paperwork they need to do, and  
5 read the procedures, and basically await further direction.

6 Another location is down in the auxiliary building  
7 near the radwaste panel. There is another location out by  
8 the auxiliary boiler. There are probably other stations  
9 throughout the plant, but basically there are several  
10 places where the licensee has left a desk and chair or, you  
11 know, some support equipment and the procedures for the  
12 equipment to be operated by.

13 Q Am I correct in my understanding that equipment  
14 operating stations mean something different than the location  
15 of each piece of equipment?

16 A Yes. I would characterize it as a centralized  
17 location for personnel -- for personnel to do their work and  
18 to go out from there to operate different pieces of equip-  
19 ment.

20 Q In the last half of this paragraph on page 3 and  
21 continuing on to page 4, you describe the division of  
22 unlicensed personnel into power plant helpers and so forth.

23 You briefly describe the duties assigned to these  
24 categories. Is this breakdown of duties and personnel that  
25 would be assigned to the different duties set forth in the



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1 technical specifications or procedures at Rancho Seco?

2 A Well, it is not in the technical specifications.  
3 The only mention of unlicensed operating people in the  
4 technical specifications are requirements for a minimum  
5 number of auxiliary -- I am sorry. I take that back.

6 There is a requirement in there for, I believe,  
7 auxiliary operators and perhaps equipment attendants and  
8 power plant helpers. As I recall, the technical specifica-  
9 tions require two unlicensed personnel during normal plant  
10 operations.

11 I think, as I recall again from memory, one is  
12 an auxiliary operator and I think one is a power plant  
13 helper or equipment attendant. So, it does actually say  
14 something about that in the technical specifications.

15 Within the plant procedures, I do not recall.

16 Q Would it be fair to say then that this testimony  
17 describing the duties that are assigned to the different  
18 types of unlicensed personnel is not so much based on  
19 requirements as it is your understanding of the practice  
20 at the plant?

21 A Well, that sounds reasonable. I agree, I suppose.  
22 Like I say, it seems to me -- I do not recall right now the  
23 procedures at the licensee's facility, that deal with this.

24 The delegation of responsibility for these three  
25 positions. There might be something in the technical

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specifications about auxiliary operators, but I really do

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not recall right now.

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1 Q Let me ask you this, then. What is the basis  
2 for the divisions that you have set forth in your  
3 testimony?

4 A Well, as I remember, I discussed the delegation  
5 of responsibility with the management at the plant, and with  
6 the people themselves, the unlicensed operating people, and  
7 I did review their training program and their program for  
8 advancement in the position with the training coordinator,  
9 and, I believe, his assistant, and what I have written here  
10 in my testimony is based on those discussions and what I  
11 reviewed from memory at that time.

12 I might also point out it is based on that  
13 inspection report, Inspection Report 79-14, dated August  
14 1, 1979. I reread that in preparing the testimony.

15 Q That is the document we have identified as CEC  
16 39?

17 A I believe that is correct. Yes, sir.

18 Q Could you briefly describe some of the odd jobs  
19 around the plant that power plant helpers would perform?

20 A Basically, clean up the floors. If there is some  
21 water spilled on the floor, some chemical of some kind  
22 spilled on the floor, I would expect to see some of them  
23 out there cleaning it up. Perhaps doing minor maintenance  
24 like touch-up painting or cleaning out some pipe that needed  
25 to be cleaned out, like a drain pipe.

1           Maybe hauling a new piece of equipment, or  
2 assisting people in moving a piece of equipment or some  
3 supplies into or out of the plant, like rags or chemicals  
4 of one sort or another. Mixing a chemical in a tank for  
5 addition to the plant somewhere. Helping to take on diesel  
6 fuel or fuel oil for the auxiliary boiler.

7           That is about all I can think of off the top of  
8 my head.

9           Q     Do you know whether they might be involved in  
10 handling fuel for the diesel generators?

11          A     I do not know offhand. I would expect it  
12 probably would be.

13          Q     Can you describe what your understanding of the  
14 role of power plant helpers during an emergency situation  
15 might be?

16          A     Well, I think that would really depend on the  
17 nature of the emergency, but basically it would be to  
18 follow the orders of the licensed operating people if some  
19 manipulation of equipment or change of position of valves  
20 was required. Otherwise, they would stay at their watch  
21 station and be prepared to do whatever they are ordered, and  
22 of course if they were ordered to assemble at an emergency  
23 assemble point in order to evacuate, they would have to go  
24 through wherever the assembly point was and report in.

25          Q     Would that also be the case for the duties of the



1 equipment attendants and auxiliary operators in the same  
2 emergency situation?

3 A In general, yes. It would depend what the  
4 emergency would be.

5 Q Turning to Page 4 at the top, could you briefly  
6 describe some of the non-safety portions of the plant that  
7 equipment attendants would be responsible for working with?

8 A The auxiliary boiler springs to mind. Basically,  
9 the equipment related to the turbine cycle, perhaps  
10 condensate pumps, the main condenser, turbine lube oil,  
11 circulating water system, that goes to the cooling towers.  
12 Heating and ventilation system in the turbine building.  
13 Condensate polishers. Air compressors. Demineralized  
14 water system and demineralizers.

15 Q Your list does not have to be exhaustive.

16 A Okay.

17 Q Would you also give us some examples of the  
18 safety related areas of the plant that would fall within  
19 the responsibility of the auxiliary operator?

20 A The auxiliary operator generally works in the  
21 auxiliary building, and so he would have occasion to work  
22 with the emergency core cooling systems, the emergency  
23 feedwater systems. Although not exactly safety related, he  
24 would be working with the radwaste systems, radioactive  
25 waste systems.



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He might have occasion to work with the batteries or the diesel generators, although as I recall, those generally fall to the equipment attendant to supervise those.

Q Is it your understanding that power plant helpers and equipment attendants are strictly prohibited from working in safety related areas of the plant, or is that division more their general responsibilities as opposed to a strict prohibition?

A My understanding is, it is more of a general prohibition. If a power plant helper was needed to do something in the auxiliary building, I would expect that he could go into the auxiliary building and under the supervision of some more experienced operator or unlicensed operating personnel, he could go ahead and carry out that task.

That is also, of course, one way to teach the person how to do it.

Q The last sentence on -- the same paragraph we have been discussing, you state that there are between three and seven unlicensed operations personnel on a shift. Would you describe, if you can, whether there is any standard breakdown between auxiliary operators, equipment attendants, and power plant helpers that are likely to be present on a given shift?

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1           A     Well, the technical specifications -- again, I  
2 am recalling this from memory -- require during power  
3 operations that there be either an auxiliary operator or  
4 -- either one equipment attendant or an auxiliary operator  
5 and either -- and also one either equipment attendant or  
6 power plant helper. So that would be two unlicensed  
7 personnel during power plant operations -- unlicensed  
8 operating personnel, I should say, during cold shutdown  
9 or a situation where the plant is not operating.

10           As I recall, one unlicensed operations person is  
11 required. I do not recall what category that person would  
12 be in. Normally on a shift I would expect to find at least  
13 one auxiliary operator, at least one equipment attendant,  
14 and any number of power plant helpers.

15           Generally what you find, as I recall, we find  
16 one or two auxiliary operators, and probably two equipment  
17 attendants, maybe one of them was in training status; and  
18 then the rest of the people were power plant helpers.

19           Q     In response to Question 7, you described the  
20 training given by SMUD to unlicensed personnel, and you  
21 refer at the outset to Three Mile Island training. This, I  
22 take it, is the same training that you referred to in the  
23 beginning of your answer to Question 8 on Page 5. Is that  
24 correct?

25           A     Let me check.

1 (Pause.)

2 A Yes, that is correct.

3 Q Can you briefly describe how the completion of  
4 that training was documented?

5 When I say documented, let me clarify that. I  
6 mean documented by SMUD to the NRC.

7 A For the unlicensed people or the licensed  
8 people?

9 Q For both of them.

10 A Well, I am going to have to rely on my memory  
11 here, but as I recall, we sent out the bulletin to the  
12 licensee, and they are required to address the bulletin in  
13 writing, and so their documentation of completion would be  
14 in writing, and then we would verify that by actually  
15 going to -- we went to the plant and our inspectors inter-  
16 viewed the operators, and questioned the operators themselves,  
17 and discussed this training with them, and, I believe, looked  
18 through the training records to be sure there had been some  
19 kind of an attendance sheet or log sheet made up on people  
20 who have attended the Three Mile Island training.

21 For the unlicensed operations people, I believe  
22 there was some kind of an attendance sheet or internal  
23 memo that summarized who had received it. That was about a  
24 year ago. I do not recall except that at least one of us  
25 looked at it and closed it out following the inspection we

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1 did there.

2 Q In the second sentence, you state -- the second  
3 sentence in your answer to Question 7 on Page 4, you state,  
4 "Some training was also required by SMUD for the other  
5 Operations Division personnel at Rancho Seco."

6 Referring to Page 5 of your testimony, in response  
7 to Question 8, you describe some phone communications and  
8 AFW valve control training -- training for personnel. Is  
9 that what you were referring to in Question 7?

10 A Yes.

11 Q Is there more, or is this all of it?

12 A That is all I know of.

13 Q The training you are referring to is related  
14 to the cross connect valve in the auxiliary feedwater  
15 system that has been designated FWS-055?

16 A I honestly do not recall the valve number, but  
17 basically that sounds like the kind of thing it was. The  
18 purpose of the training was to be able to open and shut that  
19 valve if there was a failure of other valves to operate,  
20 and then, of course, that communication with the control  
21 room through a phone system, so that the unlicensed  
22 auxiliary operator, you know, could be in communication with  
23 the license people.

24 Q So the phone communication training you are  
25 referring to is really part of this training in the operation

1 of this valve?

2 A Yes.

3 (Pause.)

4 Q Referring to Page 6 of your testimony, in your  
5 description beginning on Page 5 of the new employee  
6 orientation program, the last part of it, you describe the  
7 tour of the facility in which you state it covers at least  
8 employees' work area and the location of emergency assembly  
9 points.

10 Could you describe what is covered in the tour  
11 of the employees' work area?

12 (Pause.)

13 Q Let me rephrase my question. I can perhaps make  
14 it a little clearer. Is it essentially -- Inasmuch as  
15 this is an orientation program, would I be correct in  
16 assuming this is essentially a tour intended to show the  
17 employee where things are located in their work area?

18 A Well, based on my discussions with licensee  
19 people, yes, that is the idea, to show a person how to get  
20 to a work station and how to find their supervisor, how  
21 to find the equipment they are going to be working with,  
22 and basically getting into and out of the plant.

23 So, I guess the answer is yes.

24 Q This would include such things as the different  
25 level numbering systems in the plant, and the way locations

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1 are designated within the plant, that sort of thing?

2 A I do not know it would be that detailed. I  
3 really do not know if they go into that detail. They talk  
4 about column lines and locations based on elevations, that  
5 sort of thing. I do not know.

6 Q In the paragraph that follows the portion of your  
7 testimony that we were just talking about on Page 6, you  
8 begin to describe the on the job training for unlicensed  
9 personnel. Is it your understanding that the majority of  
10 the training that unlicensed personnel get in the evolutions  
11 that they would carry out is part of this on the job  
12 training program as opposed to the other training you have  
13 been discussing?

14 A Yes. That is the primary training they get, is  
15 on the job training.

16 Q In the second sentence of that paragraph you  
17 say, "The shift supervisor and the person him/herself are  
18 responsible for this on the job training." Most of this  
19 training would be conducted away from the control room. Is  
20 that correct?

21 A Well, I do not know that for a fact, but I would  
22 expect that most of it would be done away from the control  
23 room. I would expect people who had questions would go to  
24 the control room or wherever the licensed operators were  
25 located and talk to them and discuss it, and maybe look at

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1 the piping and instrumentation diagrams and procedures  
2 which are conveniently in the control room, and at some  
3 point when they were actually learning how to operate  
4 pieces of equipment and follow the procedures, I would think  
5 they would have to -- of course, they would have to be at  
6 the equipment and have someone watching them to make sure  
7 they did it properly.

8 So, to that extent, most of the on the job  
9 training I would expect to be out in the plant.

10 Q It is my understanding that the shift supervisor  
11 spends the vast majority of his time either in the shift  
12 supervisor's office or in the control room. Is that  
13 correct?

14 A From what I have seen, yes. He is in the control  
15 room most of the time.

16 Q So would it be fair for me to assume that most  
17 of the on the job training conducted away from the control  
18 room is conducted by someone other than the shift  
19 supervisor?

20 A Well, I would say that is a good guess, but again  
21 I would not be certain of that on all the shifts. I think  
22 there is -- the people who run the shifts are different,  
23 and one fellow might choose to do it that way, but others  
24 might not. The people I have seen have generally spent  
25 most of their time in the control room.



end P3

1 Q At the bottom of Page 6, you describe the plant  
2 procedure training, and you state at a minimum this  
3 includes, and you go on to describe various administrative  
4 controls. Is it your understanding that the plant procedure  
5 training focuses on administrative controls?

6 The reason why I ask this question, if I can  
7 clarify it for you, you say, at a minimum, it includes  
8 these things, and I wondered whether the things it might  
9 include in addition to this would be similar to this,  
10 administrative controls, or whether they would be in some  
11 way different.

12 A Well, I think this -- I am not too sure today  
13 how the licensee is interpreting this training requirement  
14 in their own program, but it seemed -- it seems to me that  
15 the procedures were to acquaint the person -- the training  
16 in this area of plant procedures was to acquaint the person  
17 with the procedures, and you know, which section of the  
18 procedures dealt with equipment, and which section dealt  
19 with surveillance, and which section dealt with administra-  
20 tion, and at a minimum, the unlicensed person was  
21 acquainted with administrative clearances and the abnormal  
22 tags, the administrative requirements, and I would expect  
23 there would be at least some familiarity, at least, to show  
24 the person what the procedures looked like for the  
25 equipment operation.

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1 Now, I don't recall verifying that or getting  
2 into it in any detail, so I guess you have to take that  
3 with a grain of salt.

4 Q Referring to Page 8 of your testimony, you  
5 describe self-instruction booklets that are given to  
6 unlicensed operations personnel. Have you seen this  
7 booklet?

8 A Yes, I have.

9 Q Is it -- You use the word "booklet." Is it more  
10 of a manual or a pamphlet?

11 A Well, they are really a collection of pamphlets,  
12 as I recall. I don't remember how many there are, but there  
13 were -- there were like many, let's say, more than a dozen,  
14 and this is again from memory, but there were a large  
15 number of pamphlets, and they each went into engineering,  
16 basic engineering, and went into physics, fluid flow of  
17 water in pipes, this kind of thing, and it started on a  
18 fairly simple basis, the beginning ones, oh, and electricity  
19 of course, too. It started on a fairly simple basis, and  
20 as you went through the booklets, it got into more and  
21 more advanced concepts.

22 Q Could you give us a brief description of, perhaps  
23 taking one pamphlet as an example, of some of the simple  
24 concepts that it would begin with, and then how sophisticated  
25 it would get towards the end?

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1           A     Well, just from memory, this is going to be  
2 somewhat vague. The initial ones might deal with very  
3 simple things like how to read a gauge. You know, given a  
4 gauge with a scale of zero to 100, you know, and ten  
5 divisions, and if the needle is here, that means 20. It is  
6 very simplistic, maybe showing how you measure threads on  
7 nuts and bolts, you know, a half-inch diameter bolt with  
8 ten threads per inch, showing what that really means.

9           I would say this would be maybe the high school  
10 level, or beginning high school level of showing people  
11 engineering, end of the eighth grade, something like that.  
12 The later -- the latter booklets would get into perhaps  
13 something like showing the uranium nucleus being fissioned  
14 by a neutron, and getting the resultant two fission  
15 products, and two to three neutrons, and 200 mini-electron  
16 volts of kinetic energy coming out of it, and maybe dealing  
17 briefly with the nature of radiation, such as alpha  
18 particles, beta, and gamma radiation.

19           So you have quite a spectrum there, as I recall.

20           Q     Do you know whether the same booklets are given  
21 to all personnel?

22           A     That was my understanding. Everyone who came in  
23 there got them.

24           Q     The next sentence on Page 8, you say that a  
25 person's advancement is based in part upon satisfactorily

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1 completing portions of this course. Is there a test  
2 given in order to determine that? How does a person  
3 demonstrate that they have satisfactorily completed the  
4 course?

5 A As I recall, there was a test. I don't remember  
6 exactly how it was administered, whether it was a self-test  
7 that had a grading sheet that the training coordinator  
8 retained, or if it was administered as a group. I kind of  
9 thing it was a self -- as I recall again from memory, I  
10 believe it was a self test, and then the training coordinator  
11 had an answer sheet to the thing, and -- well, yes.

12 Q Do you know whether there were any specific  
13 criteria that determined whether someone passed or failed  
14 the test, or was it more subjective?

15 A Well, I think -- as I recall, I believe there were  
16 some specific criteria, but --

17 (Pause.)

18 Q At this point I would like to return to Page 4  
19 of your testimony, where you discuss the investigation that  
20 you conducted, which is described in CEC 39. And you  
21 mentioned you had a copy of CEC 39, so I would like to ask  
22 you some questions about it.

23 This investigation began with anonymous  
24 allegations. Is that correct?

25 A Yes, that's right.



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1 Q I want to preface this question by stating that  
2 I am not interested in having you identify or give any  
3 information that would lead to the identification of the  
4 individual or individuals who made those allegations, but  
5 I do have some questions about them that I would like you to  
6 answer.

7 Do you know whether these people were SMUD  
8 employees?

9 Well, first of all, was it one person or more  
10 than one person?

11 A Well, there were -- there was, as I -- well,  
12 there was initially one person made allegations. That  
13 person, for whatever reason, decided not to talk to us in  
14 person, but I met with someone else who was an ex-SMUD  
15 employee who was willing to talk with us, and between talking  
16 to the first individual over the telephone and talking to  
17 the second individual in person, we obtained allegations  
18 that we thought we could try to follow up and see if there  
19 was any safety significance or problem there.

20 Q You mentioned the second individual was an ex-SMUD  
21 employee. Was it your understanding that the first  
22 individual was in some way associated with SMUD?

23 A Well, my understanding was, the first individual  
24 was a SMUD employee, and may still be.

25 Q With respect to these two individuals, were they



1 operations personnel at the plant? Was that your  
2 understanding?

3 A Well, the second one was, before he left the  
4 employment of SMUD, and my understanding is, the first one  
5 is also.

6 (Pause.)

7 Q Did either of these individuals tell you whether  
8 or not they had made their concerns known to SMUD before  
9 presenting them to the NRC?

10 A I don't know about the first individual.  
11 As I recall, the second individual hadn't told me that  
12 -- that these concerns had been somewhat voiced with  
13 management personnel or supervisory personnel, at least,  
14 but that nothing had come of them, or nothing had happened.

15 Now, I am not too sure what, you know, transpired  
16 when this person or his acquaintances talked about this  
17 with other people, so it is a little vague in my mind  
18 exactly what had transpired. I got -- as I recall, my  
19 understanding was that they had tried to voice some  
20 concern, but they felt -- or this person felt that it had  
21 not been dealt with adequately, and so they were going to  
22 call in the NRC, talk to the NRC about it.

23 Q Is it unusual for you to receive this type of  
24 anonymous allegation?

25 A Me personally, or the office?

1 Q The office.

2 A No, it's not unusual.

3 Q Is it unusual for you to receive it from  
4 people that you have reason to believe work at the plant?

5 A No. Usually -- yes. Usually where we get it is  
6 from people who work at a facility or work in some capacity  
7 related to the facility.

8 Q Have you received similar anonymous allegations  
9 with respect to Rancho Seco, other than the one that is  
10 described here?

11 A I believe our office has in the past. I don't  
12 remember what those were at the time. Some time ago  
13 -- it is not related to this issue of unlicensed operators,  
14 I remember that much, or unlicensed operations personnel,  
15 again, I should say.

16 Q Would it be the policy of your office to always  
17 conduct an investigation such as this one upon receiving  
18 an anonymous allegation?

19 A Basically, yes. If we -- If we can reduce the  
20 allegation to -- if we can express it clearly, what the  
21 allegation is, then we will certainly follow it up. If  
22 we get the kind of a phone call or the allegation in  
23 writing that -- something to the effect saying, well, this  
24 facility is just unsafe, with no specified cause or reason  
25 behind it, then we will generally file that. If we get a

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1 call from somebody who says, well, you know, a meteor is  
2 going to strike Rancho Seco in the next 24 hours, again, we  
3 might file that somewhere or pass the word along to  
4 Washington, but we wouldn't actively pursue it. There is  
5 some judgment involved, obviously.

6 We try to pursue everything within reason.

7 Q Well, in an investigation such as this one, what  
8 kind of proof would you feel you need to find to sub-  
9 stantiate an allegation?

10 (Pause.)

11 A Well, that would really depend on the allegation.  
12 I can give you at least one example. There was a note  
13 written on a chalk board in the control room area by the  
14 operations supervisor that could have been misunderstood.  
15 We substantiated that indeed the operations supervisor  
16 had written this on the chalk board. He admitted that him-  
17 self, and the operating people also agreed. There is no  
18 disputing that, but of course he went on to explain what  
19 he meant by that, and describe more about what he intended  
20 by that and what the problem was that caused him to write  
21 that note on the board, so there were, I would say there  
22 were mitigating circumstances. In that situation, the  
23 allegation was substantiated, and indeed he had written a  
24 note on the board and told people not to pass on information  
25 about the plant to people outside the facility, but there

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1 was no intention to prevent NRC or any authorized personnel  
2 from getting information. The intent of the note was to,  
3 according to him again and his -- the people who had talked  
4 to him about it when he wrote it, the intent was to prevent  
5 media and people employed by other groups from getting  
6 information that the utility didn't want to release at that  
7 time.

8 Basically, the utility wanted one spokesman in the  
9 wake of Three Mile Island, so they are trying to cut down  
10 their sources of information to avoid confusion.

11 So, you know, I can substantiate the allegation,  
12 but again, there is no safety hazard or substance. Basically,  
13 to generalize, we substantiate allegations with review of  
14 records, talking to personnel, examining actual pieces of  
15 equipment or devices or procedures. If someone alleges  
16 that a procedure is incorrect, well, it is certainly easy  
17 enough to go and check that procedure and see if it makes  
18 sense or not, and if it is workable, and we can go from  
19 there.

20 It is very difficult to characterize all the  
21 allegations or how you solve them, because unfortunately, each  
22 one seems to be different.

23 Q I think it is relatively clear to all of us how  
24 you would go about substantiating a very factually oriented  
25 kind of allegation. I am more interested in how you would

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1 -- how you would confirm or deny a more subjective  
2 allegation such as, there is poor communication, or something  
3 like that.

4 I notice that you did receive allegations of  
5 that sort in this investigation, and that you talked to, I  
6 believe, 50 percent of the unlicensed personnel. If you  
7 received an allegation like that and you spoke to 50  
8 percent of the unlicensed personnel, and some of them agreed  
9 with the allegation, and some of them didn't, would you  
10 consider that to be substantiated or non-substantiated?

11 How would you treat that?

12 A Well, if the allegation -- Let me turn here to the  
13 part where I talk about that. We might as well -- I would  
14 like to stick with the actual examination we did.

15 When someone alleges that there is poor  
16 communication, and I go out and talk -- well, basically, how  
17 do you establish there is poor communication or good  
18 communication, for that matter? One way I can see to do was  
19 to talk to the people involved, but in order to find out  
20 anything, I think we had to have some privacy, so I made  
21 sure that we had privacy and that people would be free to  
22 talk, or reasonably free to talk, and I also felt that I had  
23 to talk to enough people so that no one individual could be  
24 singled out as an instigator or something of that nature.

25 So, the first thing to do is let people speak

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1 freely, and ask them what, you know, what are your problems.  
2 I have this allegation that there is poor communications;  
3 can you describe to me if you feel that is true, or not  
4 true, and if you think it is true, could you give me some  
5 examples of where it is true, some specific examples of  
6 where communications are broken down and where you have  
7 personal knowledge of it?

8 And of course the people I talk to would tell me,  
9 you know, their problems, and a lot of their problems were  
10 problems, but I don't think you could call them poor  
11 communications. Some of them you could call poor  
12 communications, and those are the ones that we came back  
13 and asked the utility to do some remedial corrective  
14 measures.

15 I also talked to the operations supervisor and  
16 some of the plant management, to find out, you know, if they  
17 were communicating. How responsive were they to their  
18 people? Were the people coming to them with questions or  
19 with problems? You know, at some-- at some point here we  
20 are getting into a very gray area which also gets outside  
21 the NRC's normal responsibilities and authorities.

22 And so, I have to -- I felt I had to probe deep  
23 enough to see if there was any safety problem, but at the  
24 same time I couldn't probe into all the personal problems  
25 of the individuals or the utility. So, I had to make a



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1 judgment as to, you know, what was a real communication  
2 problem and what wasn't, and in talking with the people, the  
3 unlicensed operating personnel, they all seemed to realize  
4 that they could go for help and ask questions if they  
5 wanted to, but there seemed to be some reluctance on their  
6 part to do that at times.

7 Now, why that is so is open to debate, but I  
8 pointed this out to the management in private, and explained  
9 what I had found, and like I say, this is somewhat outside  
10 our normal purview, and I was unable to find any safety  
11 problem or non-compliance with the regulations, so I had to  
12 leave it there.

13 Basically, communications exists between indivi-  
14 duals if you can maintain a discourse or if you can ask and  
15 answer, ask and receive questions, ask and receive --  
16 transmit and receive information, such as we are doing right  
17 now. And the unlicensed operations personnel could ask for  
18 information and they could receive it, and they could give  
19 information back and it could be received by the operations  
20 personnel.

21 I know it is a little simplistic, but basically  
22 everything was in place for communications to occur, and if  
23 there was no communications, I would have to say it is up  
24 to the individuals to solve that problem.

25 Q What do you think needs to be in place in order



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1 for communication to occur?

2 A In general?

3 (Pause.)

4 A Well, just in general terms, I would say the  
5 physical ability to communicate. There --

6 Q Well -- I am sorry. Did you finish your answer?

7 A I was going to say, the physical ability to  
8 communicate has to be in place for this communications to  
9 occur. There has to be some purpose or some task involved  
10 for the communications to be meaningful. For good communica-  
11 tions, which is a subjective judgment, I suppose one needs  
12 freedom of expression and ability to express oneself.  
13 Those are fundamental communications precepts, I suppose.

14  
15 end SBR  
16 1&2  
17 SBR 3 fol



1 Q You mentioned in a couple of your past answers  
2 things falling within and without the purview of your agency  
3 and your responsibilities. When you conduct these types of  
4 investigations, is it your understanding that you are there  
5 to primarily enforce NRC regulations and insure that the  
6 legal requirements applicable to Rancho Seco are being met?  
7 Or do your investigations go beyond that?

8 A Well, speaking personally as an inspector or if  
9 I'm tasked to investigate something, my purpose is to make  
10 sure that if the plant's operated, it's operated safely,  
11 and that the regulations are followed. But the purpose of  
12 our whole program is to make sure that if we're using nuclear  
13 power, we're doing it safely.

14 So my first concern is, is there a safety problem,  
15 and how real a problem is that. Then, are the regulations  
16 being followed. In short, we look deeper than just the regu-  
17 lations. At least I would like to believe we do. I do.  
18 I think most of the people I know do.

19 Q How do you define or distinguish between problems  
20 that are a safety concern and problems that are not a safety  
21 concern?

22 A Well, you almost have to pick an example for some-  
23 thing like that.

24 Q Okay. Poor communications.

25 A If we had reason, or I had reason, to believe that

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1 someone was required to do a task that that person was not  
2 qualified or could not do, then I would say that that's a  
3 safety problem. If they could get no help and they were  
4 required to do something, then I'd say you have a safety  
5 problem, with some significant piece of equipment. But  
6 obviously, if someone doesn't know how to operate a particular  
7 type of lock on a particular door that has nothing to do  
8 with the safety of the plant, then that's not a problem.

9 But on the other hand, if someone is required to  
10 start a diesel generator and has no knowledge of how to do  
11 this during an emergency, then I'd say you have a real safety  
12 problem. On the other hand, if someone does not know how  
13 to add fuel oil to the fuel oil storage tank for the auxiliary  
14 boiler but they're supposed to know that, and they know they  
15 don't know it, that's not good but that's not really a safety  
16 problem, because there is no way that I could immediately  
17 see to connect the filling of that tank with any safety  
18 issue at the plant. Is communications -- have I answered  
19 your question?

20 Q Yes. Are you aware of any exams that either your-  
21 self or any other member of your office have administered to  
22 unlicensed personnel to determine whether they knew how to  
23 operate safety-related equipment?

24 A No, we haven't administered any exams that I know  
25 of. I believe we have observed -- some of us have observed

1 some of them being trained. I don't think that was an  
2 indepth examination; it was just sort of a watch over the  
3 shoulder sort of thing.

4 Q You were observing the on-the-job training that  
5 you described?

6 A Yes, some of us have done that.

7 Q There has been some testimony in this proceeding  
8 to the effect that in the on-the-job training program, an  
9 unlicensed operator may assume the responsibilities of, let's  
10 say, an auxiliary operator moving up from equipment attendant,  
11 and then receive some of his on-the-job training after that.  
12 Is that correct?

13 A Well, I suppose that's possible. I haven't seen it  
14 done that way, but I suppose it's possible.

15 Q In your earlier answers with respect to the communi-  
16 cation allegation, you suggested that some people had expressed  
17 some dissatisfaction about communications at the plant, is  
18 that correct?

19 A Yes. Some people indicated a dissatisfaction with  
20 communications.

21 Q So when I refer to page 5 of CEC 39 where you have  
22 the findings with respect to that, at the bottom you say,  
23 "The allegation could not be substantiated." Did you mean  
24 by that that you hadn't found anything that was, in your mind,  
25 a safety concern as distinguished from the fact that you had

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1 determined there were no communication problems?

2 A Well no, I think it's a little bit broader than  
3 that. The allegation that there's a lack of communication  
4 and general disregard of auxiliary operators and below as  
5 to plant status -- while I didn't find it, there was a lack  
6 of communication or a disregard. I found that basically  
7 people were told that if they had questions they were expected  
8 to come forth and ask them, and that if things were busy  
9 they might be put off for a while until things were less  
10 busy, until operations were less busy, and then their  
11 questions could be dealt with more. And by and large, it was  
12 left for the unlicensed personnel to really establish the  
13 communications. And we're talking about subjective things,  
14 I suppose, here, but the feeling, if you will, that I had  
15 from talking with many of these people is that they really  
16 wanted more attention. They wanted to be part, feel more a  
17 part of the group, more a part of the team.

18 It's sort of like your hand saying well, the brain  
19 has made this decision that I'm to reach out and pick up  
20 this hot object, physically hot; I'd like to be in on that  
21 decision, too, a little bit. And that's understandable.  
22 But again, these are people's feelings and the operators and  
23 the operators of the plant are generally busy, and it's  
24 difficult I suppose to keep a discourse going all the time  
25 unless the people who want to talk come in and take the time

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1 to do it.

2           The unlicensed personnel talked I think a great  
3 deal amongst themselves and to some extent, probably for  
4 many reasons, they felt somewhat segregated from the licensed  
5 operators, and they felt there was a barrier or wall between  
6 the licensed operators and the unlicensed personnel. But  
7 that was basically -- a large part of that was a psychological  
8 barrier, to my mind anyway. And there wasn't a great deal  
9 I could do about that personally, or that the NRC management  
10 could do about that. The only thing I would say here is  
11 I tried to do my best to make the management at the plant  
12 aware of it, and I believe they were at least partially aware  
13 of it to start with. So there's not much you can do with a  
14 situation like that. It's very common in any business  
15 activity or any working place.

16           Q     You stated that it was your understanding that  
17 management was at least partially aware of it to start with.  
18 What is the basis for that statement?

19           A     I think another allegation was that there was a  
20 large turnover of unlicensed personnel, and that we sub-  
21 stantiated that. There was a large turnover of unlicensed  
22 personnel; they would hire in people and they'd stay a year  
23 or two and then leave. And part of the cause of that was  
24 some unhappiness, some dissatisfaction, again for a variety  
25 of reasons, and the management was aware of that and knew it



1 was a problem and that people at the plant were not happy  
2 about it.

3 Q So it's your understanding that -- well, what was  
4 your understanding of the reasons for the high turnover?  
5 Were they related to the communications problem that we're  
6 talking about here or was it something else?

7 A I think that's part of it. You know, you reward  
8 people very often in a variety of ways, and perhaps the  
9 reward level was low, but basically the reasons for people  
10 leaving were varied, but to try to sum them all up -- there  
11 were things like some people decided they didn't like shift  
12 work. Other people decided the pay was too low. Other  
13 people felt that the promotional possibilities were not  
14 good enough. And that someone else had been wrongfully,  
15 perhaps, promoted above them. Other people felt that there  
16 was a communications gap and that their concerns were not  
17 being heard. Other people felt that they were not informed  
18 of what was going on in the plant and in the company as a  
19 whole, and they felt out of place. Other people, at least  
20 a couple of them as I recall, just after Three Mile Island  
21 felt they didn't want to work there anymore; they didn't  
22 want to be around a nuclear power plant.

23 So you had a real variety. And of course, some  
24 people have more than one reason for being unhappy.

25 Q Did you have an opportunity to actually talk to a

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1 substantial number of people that had left, or did you get  
2 this information from somewhere else?

3 A Well, I only talked to one person who had actually  
4 left. The rest of it is secondhand, except for, of course,  
5 just the fact that the people I did talk to, the 15 people  
6 I interviewed and then several others at a later time  
7 informally or less formally talked to me in the hallways and  
8 and the locker room and that kind of thing. This is based on  
9 those discussions and from their friends who had left and  
10 that kind of thing.

11 Q I'd like to return to the on-the-job training  
12 program and your finding that appears at the bottom of page 3  
13 in the last sentence, you mentioned the on-the-job training  
14 program. Can you briefly describe how the on-the-job  
15 training is documented?

16 A I don't believe there is any documentation of that.  
17 I could be wrong, but I don't recall seeing any.

18 Q Is there a prescribed program of a discrete number  
19 of things that a person is to be trained in?

20 A No, I don't believe so. As I recall, the shift  
21 supervisor is responsible for his shift, and he's responsible  
22 for making sure that personnel on it are trained. So I  
23 think you'd really have to talk to the shift supervisors as  
24 to how they administered it.

25 Q We took the deposition of three operators early

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1 in this proceeding, and one of them who stated that he'd been  
2 responsible for doing some of the training of less experienced  
3 unlicensed personnel described it as being essentially that  
4 each time occasion arose for the new person to have to perform  
5 a task, the person giving them the direction to perform the  
6 task would tell them, go do this; and if the person didn't  
7 know how to do it, they would have the responsibility of  
8 saying so, and then they would be trained on how to do it.  
9 Is that your understanding of how the on-the-job training  
10 works?

11 MR. BAXTER: I object to the characterization of  
12 the deposition testimony. I think we ought to show the  
13 witness exactly what we said rather than accepting that  
14 description of it, because it doesn't comport with my  
15 recollection of it.

16 MR. ELLISON: I think the question can stand without  
17 regard to the reference to the depositions. I think the  
18 depositions did say that, that's my recollection and I  
19 think it would be essentially a waste of time to have to  
20 go back through that, and I would ask the question just, is  
21 that your understanding of the on-the-job training program,  
22 without regard to whether to whether it was said in the  
23 depositions or not?

24 MRS. BOWERS: Mr. Black?

25 MR. BLACK: I think that Mr. Ellison's question is

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1 proper if it's phrased correctly. And I think that if he  
2 says, this is my recollection of the deposition. Does that  
3 comport with your knowledge of the situation? I think that's  
4 a proper question.

5 MR. BAXTER: I have no objection to the question;  
6 I just don't want the witness misled into believing that an  
7 operator has said something he didn't say. If we withdraw  
8 the characterization of the deposition, I have no objection.

9 MR. ELLISON: That is my recollection of what the  
10 deposition says, but what I'm interested in is whether that's  
11 your understanding.

12 BY MR. ELLISON (Resuming):

13 Q So, without regard to whether it was ever said in  
14 this proceeding before, is that your understanding of how  
15 the on-the-job training program worked?

16 MRS. BOWERS: Just a minute. The objection is  
17 overruled. We'd like the witness to answer.

18 THE WITNESS: Pardon me? You'd like me to speak  
19 to this?

20 MRS. BOWERS: To answer the question.

21 THE WITNESS: My understanding of the on-the-job  
22 training program was twofold, I suppose. One, when a new  
23 person was brought in as a power plant helper, the person  
24 would be assigned to follow around some other more experienced  
25 person who would then show them how to operate equipment that

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1 they were already checked out on or were knowledgeable of,  
2 and that if either one of them ran into a problem they could  
3 call for help from one of the more senior people or one of  
4 the licensed operators.

5 At some point, which would really be determined by  
6 the shift supervisor of that watch section, the new person --  
7 the power plant helper -- would be assigned to do tasks by  
8 himself, based on the fact that he has walked through this  
9 and done it with another person who was knowledgeable  
10 beforehand. So if he ran into problems at that time by  
11 himself, he could go to the telephone and get some assistance  
12 or walk over and get his friend who showed him how to do it  
13 before, if he had forgotten how to do something. That's my  
14 recollection. Does that answer the question?

15 MR. ELLISON: Yes.

16 MRS. BOWERS: Mr. Ellison, we think it's about time  
17 for a mid-morning break.

18 (A short recess was taken.)

19  
20  
21  
22  
23  
24  
25

P4 flws.



flws S-3  
P-4

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1 MRS. BOWERS: We would like to resume. Mr. Ellison?

2 MR. ELLISON: Yes, ma'am.

3 BY MR. ELLISON: (Resuming)

4 Q Returning to CEC-39, page 2, the last sentence of  
5 the paragraph that concludes at the top of the page, you  
6 say, "Safety concerns based on hearsay or personal opinion  
7 outside the scope of nuclear plant safety or the regulatory  
8 requirements were generally not included unless two or  
9 more personnel corroborated the concern."

10 I am interested in the concept of safety concerns  
11 outside the scope of nuclear plant safety. What do you  
12 mean by that?

13 A Say, no railing on the ladder; basically more of  
14 an industrial type situation. For instance, I do not know  
15 if this is the case at Rancho Seco, but an example would  
16 be if they used asbestos lagging.

17 If that were a health hazard to the people there.  
18 That would not be in our purview. Of course, we might tell  
19 the appropriate agent agency about it if we felt there was  
20 a potential for a problem but, you know, that kind of thing;  
21 that kind of situation.

22 Q When you say, "were generally not included," do you  
23 mean included in this report?

24 A I think --

25 Q The sentence before that refers to follow-up items.

bfm2

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1           A     Yes. Basically what I was saying there is if  
2 someone had a safety concern based on what someone else  
3 had told them, and it was not clear what the real concern  
4 was, and I could not find anyone who knew anything else  
5 about the concern, then I would generally let it drop unless  
6 there was some way I could follow that up.

7                     What I am trying to say in that sentence is unless  
8 I could identify something or some operation or some situa-  
9 tion to follow-up in some sense, then I would not pursue it.

10                    I'm trying to remember an example. None really  
11 comes to mind.

12           Q     Is this discussion at page 2 essentially a descrip-  
13 tion of how you arrived at the follow-up items that are set  
14 forth on page 8?

15                   (Pause.)

16           A     Yes. The follow-up items on page 8, the six items  
17 there came out of the discussions with the unlicensed  
18 personnel. Some of those came to nothing -- turned out to  
19 be no problem.

20                    Three of them -- three things that grew out of those  
21 six that we felt were significant enough to cause the  
22 licensee to do something were these three items on page 2;  
23 A, B, and C.

24                    The other items of the six are dealt with there in  
25 the follow-up. For the most part, we investigated those,



bfm3

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1 examined them, and they did not come out to be anything, or  
2 to be any problem.

3 Q For the record, could you identify what the three  
4 items that you felt were of concern that are set forth on  
5 page 2 are?

6 MR. BAXTER: Excuse me, Mr. Ellison. I don't  
7 mean to speak out of turn, but it might save some time in  
8 the conduct of the examination, we would move the admission  
9 of CEC-39.

10 MR. ELLISON: No objection.

11 MRS. BOWERS: Staff?

12 MR. BLACK: No objection.

13 MRS. BOWERS: CEC Exhibit number 39 is admitted in  
14 evidence.

(The document referred to;  
15 heretofore marked for identifi-  
16 cation as CEC Exhibit No. 39  
17 was received in evidence.)  
18

19 MR. ELLISON: That saves you the trouble of reading  
20 it.

21 THE WITNESS: Thank you.

22 MR. ELLISON: Don't thank me, thank Mr. Baxter.

23 BY MR. ELLISON: (Resuming)

24 Q Would it be fair to say then that all of the items  
25 that are set forth on page 8 are items that were brought to

bfm4

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1 your attention by plant personnel in your interviews?

2 A Yes.

3 Q With respect to the third item on page 8, the  
4 lowering of reactor coolant system pressure below technical  
5 specifications, what was the basis for that becoming a  
6 follow-up item?

7 A Well, as I recall, one individual told me about  
8 this situation. The way the conversation ran was something  
9 to the effect that, well, you know, they have been outside  
10 their technical specification limits for about a year. They  
11 lowered the pressure so they could meet the leak rate limits.

12 It was such a specific allegation, I questioned the  
13 person about it. I said, "Do you mean the leak rate limits  
14 in the technical specifications?"

15 The person said, "Yes, yes."

16 I said, "Do you mean they lowered the reactor  
17 coolant pressure in the pressure vessel?"

18 The person said, "Yes, that is right."

19 I kind of was surprised at the allegation because  
20 one, it was so specific and, two, the parameters involved  
21 were fairly obvious. I would be really shocked if we had  
22 missed that kind of thing, or if SMUD had, in fact, allowed  
23 that kind of situation to exist.

24 Of course, I told the person, "You know, I am  
25 really surprised at this. This is -- if true, this is very

bfm5

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1 serious, but I would really be surprised if this is the  
2 case, because we have had people here looking at the plant,  
3 and I would hope that management would not deliberately  
4 operate that way."

5 The person continued to say that they had done  
6 that. So, I felt obliged to write it down and follow it up.  
7 So, I went back and I do not recall telling -- I do not think  
8 I told the utility exactly what I was examining before I  
9 did it, but I went back and looked through their log room  
10 and records.

11 They have a strip chart that records pressure for  
12 the reactor collant system. I looked through their logs  
13 of their records of what the leak rate from the coolant  
14 system was. I did that for the previous year, or a little  
15 more, and found no evidence of coolant system pressure  
16 below the technical specification limits, or any other limit,  
17 except of course, during a plant trip, which we were already  
18 aware of.

19 Of course, that was unsubstantiated. The reason  
20 I wrote it down to begin with was it was so specific, and  
21 the person was quite insistent. So, I felt obliged to follow  
22 up.

23 Q This person told you this situation had continued  
24 for as much as a year. Is that correct?

25 A Yes.

bfm6

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1 Q You examined -- on the next page, you state you  
2 examined selective records spanning 1978. Did the person  
3 identify that 1978 was the year? Was that the reason for  
4 you looking at those particular records?

5 A That is correct. They said "over the last year."  
6 I tried to pin down a more exact time frame, if I could.  
7 That was somewhat difficult. So, the person could not be  
8 real explicit as to dates or time of day or anything like  
9 that. He said "for a long period of time over the last  
10 year."

11 So, I went back and I looked at the records. I  
12 looked at the first three months of '78, then I skipped a  
13 month or so just looking real quickly at the records.

14 Then picked up another couple of months, and maybe  
15 skipped a couple and looked at three or four more. Obviously,  
16 while the plant was shut down I did not examine those  
17 because they would not have been meaningful.

18 Q Did you ask this person what the basis for his  
19 allegation was and where they got their information from?

20 (Pause.)

21 A Yes. I recall something about either getting it --  
22 overhearing a conversation or talking to someone else. So,  
23 this was almost a second -- this was in some sense a second-  
24 hand allegation.

25 I suspected that it was possibly a misinterpreta-

end tP-4

tP-5 flws



bfm7

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1 tion of what other persons had said.

2 But I pursued it anyway.

3 Q With respect to the fourth item on page 8, referring  
4 to your finding with respect to it on page 9, it appears to  
5 me that confirmed the plant trip. It is not clear to me  
6 whether you confirmed the cause as being the failure of  
7 valve D-5 to close.

8 Do you know whether that was the cause of that  
9 particular trip? I'm sorry. At the top of item number  
10 four on page 9, it suggests that that was the cause. Did --

11 A Yes, I think there was a problem with that valve.  
12 There had been some kind of a work request submitted some-  
13 time in the past on it to fix the valve, or to change its  
14 method of operation.

15 It had just not been done yet. For one reason or  
16 another, the valve was supposed to close. Evidently, it did  
17 not close in time to provide the right amount of condensate  
18 flow. That resulted in a reactor -- in a feedpump trip.

19 Of course, the -- this is the normal feedpump trip.  
20 That resulted in a reactor plant trip.

21 Q I take it this was also something that was brought  
22 to your attention in your interviews with the personnel.

23 A The failure of the D-5 valve to close?

24 Q The follow-up item number 4.

25 A Yes, that was brought to my attention by the

1 unlicensed people.

2 Q Did the person or persons bringing this to your  
3 attention suggest in any way that the failure of the valve  
4 to close was the result of any misoperation of the facility?

5 A Well, the suggestion was that the valve should  
6 have been fixed sooner. Evidently, there was some work  
7 request out on this valve. One or two work requests on  
8 it, and the valve had not been repaired or reworked.

9 It seems to me the valve was functional, but it  
10 was a matter of how it functioned or the timing of its  
11 function. The intent was to make the valve operate faster  
12 to prevent this kind of a problem where you would trip the  
13 normal feedpumps.

14 The person or people were unhappy with this fact  
15 that they knew there was a problem. It just had not been  
16 gotten to in time to prevent this particular trip of the  
17 plant. I would say, also, this does sort of reinforce some  
18 of the people's feelings that they were not confident of the  
19 operation of the condensate polisher system.

20 There were several people who wanted additional  
21 training or a little more experience with the operation of  
22 that system. It is what we call a non-safety related  
23 system, but it is a complicated system.

24 It is one that is fairly important to the operation  
25 of the plant.



1 Q Did you make any investigation of whether -- the  
2 truth of the allegation that work requests had been sent up  
3 with respect to this problem, and the problem had not been  
4 remedied in a timely manner?

5 A I recall looking at some of these work requests  
6 and it was -- it was not a real high priority item. The  
7 licensee prioritizes -- the management there prioritizes  
8 things that need to be done in the plant. This was not  
9 one of the high priority items.

10 I do recall looking at the work request. I did  
11 not find any problems with that at the time.

12 Q Did the work request -- was it generated a substan-  
13 tial period of time before the plant trip?

14 A I do not recall. I believe it was several months,  
15 but I could be mistaken.

16 Q The second part of that -- the fourth follow-up  
17 item is operator knowledge of the system is incomplete.  
18 First of all, was this one person that brought this to your  
19 attention or more than one person?

20 A Several people.

21 Q Did these individuals -- were they referring to  
22 licensed or unlicensed operators, or didn't they specify  
23 with respect to knowledge of the system?

24 A Unlicensed operating personnel.

25 Q Did this allegation occur after the training that

1 you have described on this item on page 9?

2 If it is of assistance to you, the date that is  
3 given -- requested additional training for these individuals  
4 on the 23rd and the 24th of June, 1979.

5 A Oh, okay. I did not see that for a moment. The  
6 training that is described here in the middle of page 9 on  
7 June 23 and 24, was done at our request, Region V's request  
8 because of the finding that I had -- the finding that I  
9 found that some of the operating -- unlicensed operating  
10 personnel felt unsure of operation of the system.

11 Q With respect to the fifth allegation -- follow-up  
12 item on page 8, was this a problem that was identified by  
13 several of the people you interviewed or only one?

14 A This was, again, by several people.

15 (Pause.)

16 Q The problem that is identified as the sixth follow-  
17 up item on page 8, was that one that was identified by only  
18 one or several people that you interviewed?

19 A That was identified by one person.

20 Q In doing these interviews, when one person that  
21 you had interviewed previously had identified a problem,  
22 did you ask each of the other people that you interviewed  
23 about it?

24 A Well, the approach I used was to try to avoid  
25 leading the person that I was interviewing. What I wanted

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1 to do was evoke everything from them without giving them  
2 clues to anything specific, but if they started to talk about  
3 something that had previously been identified to me, then I  
4 would pursue that a little more aggressively to see if --  
5 you know, what knowledge they had; maybe they had more  
6 knowledge than the first person I talked to on that particu-  
7 lar issue.

8           If I could get any corroborating details or  
9 additional information that would help me in a follow-up  
10 inspection to find out the truth or the importance of the  
11 item. So, in general, I did not lead the people. I tried  
12 to let them speak unless they identified some issue that had  
13 already been brought up, then I would go into it in more  
14 detail with them.

15           I tried to make everyone aware, the licensed people  
16 and for that matter, the unlicensed people that my ears  
17 were open and it would be held in confidence. Anybody who  
18 wanted to talk, they could.

19           We got a lot of personal problems.

20           (Laughter.)

21           But, you know, a lot of people would approach me  
22 even in the hallways for several days after this -- the  
23 actual interviews were taking place. Actually, a lot of  
24 that information was the same thing rehashed again.

25           So, it did not really add anything or take anything

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1 away from the report I was preparing.

2 Q Am I correct in my understanding, when you say  
3 one person or more than one person identified a problem  
4 that became a follow-up item, you mean they more or less  
5 brought it up rather than your asking them directly about  
6 it and their confirming it.

7 A Well, that is generally correct. Let me, if I may,  
8 explain how I tried to conduct these interviews. What I  
9 would do is invite the person in, you know, and introduce  
10 myself.

11 I usually had one other inspector with me who was  
12 keeping notes while I talked to the person. I would tell  
13 them it was a confidential basis. We did not need to know  
14 their names, we just needed to know their position within  
15 the plant, their assignment power plant helper, auxiliary  
16 operator -- we had gotten -- received some anonymous  
17 allegations and we were in the process of trying to follow-  
18 up and see if there was any substance to them regarding  
19 communications and the way the plant was operated.

20 We asked the person if they had any knowledge --  
21 asked the person if they had any knowledge of any safety  
22 problems at the plant that should preclude the plant being  
23 started up again.

24 At the time I was doing this, it was shut down.  
25 They all responded negatively to that. I asked them if

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1 they had any safety concerns they could identify to me  
2 concerning the plant or its operation.

3 You know, I told them "Feel free to talk, and  
4 explain anything."

5 That, of course, is what -- as you can see, we  
6 got the six items out of those discussions. I tried to make  
7 them as open and informal as possible and let people know  
8 that if they had problems, I would usually -- I would  
9 conclude the interview by saying that: "If there are problems  
10 at a later date, please feel free to call on us, and on an  
11 anonymous manner if you have to."

12 "You should try to identify these things to the  
13 plant management first, but if for some reason you feel  
14 you cannot do that, then you have and you have a safety  
15 concern, then you should feel comfortable in calling me up  
16 or calling our office up and letting us know what the  
17 concern is. We will keep your anonymity -- your identity  
18 secret."

19 (Laughter.)

20 I think that was well received. There were only  
21 about one or two people who were really closed-mouthed and  
22 were really frightened to speak for whatever reason. They  
23 were made nervous by the inspectors or something, but by  
24 and large, the people were very open and eager to talk about  
25 what they perceived as problems.

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1 Q Referring to the first page of CEC-39 -- it is  
2 actually the fourth page in the document, but it is the first  
3 page of the section entitled details. There is a section  
4 "Investigation Outline" at the end of the second paragraph  
5 of that section.

6 You say that: "Following up the allegations that  
7 brought you to the plant where you presented the general  
8 allegations to the licensee and asked to interview" -- then  
9 you go on. Do I correctly understand this to mean that at  
10 the outset of the investigation, you went to SMUD management  
11 and you told them about the anonymous allegations, essentially  
12 what they were?

13 A Well, we tried to be not very specific because if  
14 we had a problem -- if a problem existed, we did not want  
15 to eliminate sources of information or this sort of thing.

16 At the same time, we wanted to be above-board  
17 with the utility and at least tell them that we had some  
18 allegations. What I did was to talk to my supervisor in  
19 our office in Walnut Creek and discuss the allegations and  
20 what they were, and tried to figure out a strategy of how to  
21 approach this.

22 The first problem was whether or not to tell the  
23 utility we have allegations. I think our policy in general  
24 is to tell the utility that we have some allegations. We  
25 may not be very specific as to what the area of the allega-



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1 tion is, not knowing what we may find, or if someone may  
2 be at fault or not.

3 We make th assumption, as I think most people do,  
4 that people are innocent until proven guilty. So, we only  
5 felt -- we decided it was only fair to tell the utility  
6 people that we had some allegations. Generally, they were  
7 in the area of unlicensed operations personnel and communi-  
8 cations, and that we wanted -- that we decided the best was  
9 to handle it was to interview their personnel.

10 So, we felt that a representative sample would  
11 be to get about 50 percent of the unlicensed operations  
12 personnel and interview them, and try to get some people  
13 from each shift so that we could make sure we covered -- if  
14 one shift, for instance, had a problem because of a person-  
15 ality conflict or something else, at least we could identify  
16 that by covering all of the shifts we thought.

17 That would provide us with pretty good assurance  
18 that we had identified any real problems. I als went on and  
19 while I was interviewing -- in the middle of interviewing  
20 the unlicensed personnel, I also had occasion to interview  
21 the training coordinator and the operations supervisor, and  
22 I think one or two other people in management, just to see  
23 what their position was.

24 Of course, once we had determined what the allega-  
25 tions were and what the follow-up items were, we presented

1 those to the SMUD management to see what they had to say  
2 about it, and see if there was a problem or not.

3 I think I mentioned that one was lowering the  
4 reactor coolant system pressure. "I may have said I would  
5 like to look at your pressure records. I have an allegation  
6 relating to technical specifications. I would like to  
7 look at some records."

8 So, the management person turned me over to the  
9 secretary who was in charge of keeping the records. I  
10 went forth and looked at the records. Management was not  
11 totally aware of what I was doing, really, until the exit  
12 interview wherein I went over with them the findings and  
13 the scope of all the things we had looked at.

14 Q Referring to page 2 of the detail section of CEC-39  
15 item B, near the bottom of the page, it refers to the  
16 auxiliary operator or operators that had not been given the  
17 appropriate Three Mile Island training. Is it your under-  
18 standing that at the time that this was true, that this  
19 training should have been completed?

20 A I believe the commitment was that before the  
21 person stood the watch, they were required to have the  
22 training. The individual who had apparently, inadvertently  
23 missed the training was on other duties when the training  
24 was being given. The person came back on to his normal  
25 duties and was about to rotate on shift, and had not been

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1 given the training. It might have fallen through the cracks.

2 He might not have received it unless myself or  
3 someone else had brought it up. In any case, realizing this  
4 was a possibility, I brought it up. Of course, we insisted  
5 that if there was some training required that this person  
6 be given it along with anyone else who might have been missed.

7 So, that person was given the training. Our  
8 inspector looked at the training records that had been  
9 kept on the other auxiliary operators to verify that every-  
10 one who was an auxiliary operator, had been given the  
11 training.

12 Q This was the only individual that had inadvertently  
13 missed the training?

14 A Yes, there was just one.

15 Q This individual had not yet stood shift, is that  
16 correct?

17 A That is correct.

end tP-5

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1 Q Referring to Page 4 at the top, you describe -  
2 by the way, did you author this document? When I say  
3 "you describe," is that correct? Are you the author of this  
4 document?

5 A Well, I co-authored it with three other inspectors.  
6 I authored it and then Lou Miller and Al Horn assisted me  
7 in conducting the interviews and the examinations and  
8 inspections, but basically I authored the document. The  
9 only part I really did not author was the part on radiation  
10 protection, which was done by Ray Fish. That is back on  
11 -- starts on Page 9, where it goes into possible unnecessary  
12 exposures. It concludes on Page 11.

13 Ray Fish did that, but of course he and I discussed  
14 it both at length -- both before and after his inspection.  
15 So I was well aware of what he was doing. He understood what  
16 I was doing and writing.

17 Q Referring again to the top of Page 4, you describe  
18 two personnel who dropped out of the training program for  
19 licensed control operators. These were unlicensed operators  
20 who were in the program?

21 A Yes, they were unlicensed operating personnel and  
22 they dropped out of the training program to become licensed  
23 operators.

24 Q The reason that is given here is, due to the  
25 increased responsibilities being placed on operators after

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1 the Three Mile Island accident, what was your understanding  
2 of the nature of those increased responsibilities?

3 A Well, the increased responsibilities would entail  
4 more training in the wake of Three Mile Island and more  
5 extensive training, more documentation of the training, more  
6 time probably spent at simulators, plant simulators, so  
7 there would be more travel, more time away from home. I  
8 personally think the responsibilities of operators remain  
9 about the same. The situation here is that at least  
10 publicly individuals who dropped out felt that, you know,  
11 there would be more responsibility placed on them, and if  
12 they made a mistake, they could be called to task perhaps  
13 more readily.

14 Now, the NRC can cite operators, licensed  
15 operators, but we generally do not do that unless we find  
16 a real good cause to do it, and we always have had that  
17 power. We may exercise it more in the future. Whether we  
18 do it or not is still open to debate, I think. The  
19 responsibilities, though, basically remain the same.

20 The consequences of making an error to the  
21 individual might be larger.

22 Q Did you talk to these two personnel?

23 A Yes, I talked to them.

24 Q These were the concerns they expressed to you?

25 A Well, this is -- this is what they have stated.

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1 In talking to them in more depth, they had some other  
2 things that bothered them, and I am not sure how valid these  
3 were. They were unhappy with the training program that they  
4 were in, at least one of them stated. One person felt he  
5 wanted a more aggressive or a more detailed training than  
6 he felt he was getting. Perhaps that would be a matter of  
7 being in the program longer. He might have gotten what he  
8 wanted. I do not know.

9 I think another possibility, another thing that  
10 was bothering these people was that they might not really  
11 get a reward paywise commensurate with the fact that they  
12 had to tell people what to do in the plant. The licensed  
13 operators -- I think we have already seen from my testimony --  
14 tell the unlicensed people what to do in the plant, and they  
15 are basically in charge, and that is a substantial  
16 responsibility, to be in charge of operating a nuclear  
17 power plant, and the feeling I got from at least one person  
18 again was that he did not really need that responsibility for  
19 the pay involved. He was very comfortable where he was,  
20 and could follow orders and be very comfortable with that  
21 line of work. He didn't need it any more unless there were  
22 some greater reward.

23 Q Do you know how far along these two personnel  
24 were in the training program that they abandoned?

25 A I do not recall.



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1 Q Referring to Page 6, the bottom of the paragraph,  
2 Paragraph Number 3, you discuss your findings with respect  
3 to the note on the blackboard in the shift supervisor's  
4 office, and you state, "Reportedly, about six people asked  
5 various shift supervisors what the note was for, and these  
6 individuals had the benefit of the above explanation."

7 What is the basis for that statement?

8 A Talking to the operations supervisors and the  
9 shift supervisors.

10 Q Did you talk to any of the six people that asked  
11 for the explanation?

12 A No. I did not find out who they were, and none  
13 of the people I talked to brought that up with me.  
14 In other words, the people who brought it up had the  
15 question, but the people who already had the benefit of the  
16 answer never brought it up with me. Is that clear?

17 Q Yes. Did you ask any of the people who had the  
18 question whether they had asked their shift supervisors about  
19 it?

20 A Yes, I did ask them.

21 Q What were their responses?

22 A They had not asked the shift supervisor about it.

23 Q Did they give you any reason for not asking  
24 their shift supervisor before coming to you?

25 MR. BLACK: Mrs. Bowers, I would like to pose an

1 objection at this point. I think this line of questioning,  
2 although I have allowed it to continue for a while, is  
3 beyond the scope of direct examination which pertains to  
4 unlicensed operator training, much of which is contained in  
5 CEC Exhibit 39, and is contained -- it does go to that  
6 unlicensed operator training, but this allegation dealing  
7 with the shift supervisor's note on the blackboard, I do not  
8 believe goes to the scope of the direct, and so therefore  
9 I object.

10 MRS. BOWERS: Mr. Ellison?

11 MR. ELLISON: I think it does go to the scope of  
12 the direct testimony. This investigation is certainly  
13 referenced in Mr. Morrill's direct testimony. As far as the  
14 particular question I am on right now with respect to the  
15 relationship between the shift supervisor's note and the  
16 unlicensed operators, we received testimony that the shift  
17 supervisors are largely responsible for training unlicensed  
18 operators, and that the communication between them is  
19 pertinent.

20 I think it is within the scope.

21 MRS. BOWERS: Mr. Baxter?

22 MR. BAXTER: I would support Mr. Black's  
23 objection. I don't see the relevance to unlicensed  
24 operator training.

25 MRS. BOWERS: Do you have anything further,



1 Mr. Black?

2 MR. BLACK: Well, I think it is stretching it a  
3 little bit to say because the shift supervisor put a  
4 note up there that somehow leads to communication between  
5 unlicensed operators and shift supervisors. I think the  
6 note on the blackboard clearly does not go to the training.

7 MR. SHON: Am I correct in assuming it really was  
8 not the shift supervisor but the operations supervisor of  
9 the whole plant?

10 MR. BLACK: Yes, I think that is correct. It  
11 was not the shift supervisor that wrote it, but it was  
12 on his blackboard.

13 (Whereupon, the Board conferred.)

14 MRS. BOWERS: The prepared direct testimony on  
15 Page 4 references this investigation, and so we do think  
16 it is within the direct testimony, and the objection is  
17 overruled, and the witness should answer the question.

18 BY MR. ELLISON: (Resuming)

19 Q Would you like me to repeat the question?

20 A Yes.

21 Q The question I asked was whether these people  
22 gave any reason for not asking their shift supervisors  
23 about this note before bringing the matter to your  
24 attention.

25 A Generally at that point when I asked that question,

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1 the conversation would kind of digress about the bad  
2 communications or the unlicensed person feeling that he  
3 or she was not treated on an equal basis with the operating  
4 personnel. We got into -- We would digress into a real  
5 philosophic discussion.

6 Basically, many of the unlicensed operating  
7 people felt that there was a barrier or a wall between the  
8 operating -- the licensed operators and the unlicensed  
9 operations personnel. I think I already allowed something  
10 to the effect that it is as much a psychological effect as  
11 much as anything else.

12 They never gave me a good reason why they would  
13 not approach the people -- the licensed operators.

14 Q Did any of them suggest that they were in any way  
15 afraid to bring this matter to the attention of their shift  
16 supervisors, or that they felt no action would be taken  
17 and therefore it was fruitless to bring the matter to their  
18 attention?

19 A No, I don't think any of them were afraid, maybe  
20 hesitant would be a better word. Why were they hesitant?  
21 I tried to get to the bottom of this myself, and you know,  
22 there are just all kinds of reasons. They all got into  
23 their personal likes and dislikes, and they felt they could  
24 talk to this person and not to that person, and you know, it  
25 just came to nothing.

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1 Q Do you know whether these people -- you know, we  
2 have heard testimony there is a high turnover of this  
3 classification of people. Do you know whether these people  
4 had been at the plant for a while, or whether they were  
5 relatively new?

6 A Let me check back on that -- in the report, just  
7 for a second here.

8 (Pause.)

9 A A lot had been in the middle in their attendance.  
10 As I recall, one or two auxiliary operators out of what  
11 ideally the utility would have had there -- but they were  
12 short, I think, three or four equipment attendants, and so  
13 what had happened was, they had lost those people over the  
14 period of a year or two, and they were trying to get more  
15 power plant helpers and upgrade the power plant helpers to  
16 equipment attendants and equipment attendants to auxiliary  
17 operators, and there was still a high turnover rate in the  
18 power plant helpers.

19 There was potential in talking with some of these  
20 people that additional people in the equipment attendant  
21 and auxiliary operator categories would be leaving the  
22 facility. I do not know if they ever went through those  
23 plants or not.

24 Q Do you know whether among those people that  
25 suggested to you there was a communications problem or that

1 they were hesitant to bring matters to the attention of  
2 their supervisor, whether those people tended to be new  
3 employees who perhaps might be forming relationships with  
4 these people, or whether they included people who had been  
5 at the plant for a while.

6 A I thought they were new people, the power plant  
7 helpers.

8 MR. ELLISON: I have no further questions.

9 MRS. BOWERS: Mr. Black do you want the Board  
10 to go ahead?

11 MR. BLACK: Yes.

12 BOARD EXAMINATION

13 BY DR. COLE:

14 Q Just a couple of questions, Mr. Morrill. I guess  
15 one question we have asked almost every witness here, a  
16 question of this type, Board Question 32 is not as it  
17 appears on Page 2 of your testimony, although you probably  
18 have answered the question. Have you seen the other version  
19 of Board Question HC-34?

20 A No, sir, I have not.

21 Q You mean Mr. Black did not tell you that?

22 (General laughter.)

23 Q All right, sir, I will read it to you. I would  
24 have thought by now you would be telling the witnesses, Mr.  
25 Black.





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MR. BLACK: That was Mr. Lewis's responsibility.  
(General laughter.)

DR. COLE: Mr. Lewis, is it true that you did not  
tell the witness?

MR. LEWIS: I told them all a long time ago, and  
their recollection has faded, but you may proceed.

end P6

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BY DR. COLE (Resuming):

Q Okay, the real Board Question H-C-34 is, what actions and/or programs are employed at Rancho Seco to assure that operating personnel, both licensed and unlicensed, adequately respond to feedwater transients? Now, based upon that question and realizing, of course, that most of your testimony does deal with unlicensed operating personnel and we had other witnesses that talked about licensed operator training, would you like to add anything to your testimony?

What actions and/or programs are employed at Rancho Seco?

A I don't believe I have anything to add. The only real actions or programs would be those related to Three Mile Island accident and the feedwater transient type situation; the only thing that's immediately relevant would be the auxiliary operator training that was administered by SMUD where we found that there was one person who did not have that training, and subsequently had it before he went on shift. So I really don't have anything more to add, sir.

Q All right, thank you. On page 2 of your testimony in response to Question 5, the second sentence of your response you refer to yourself as "maintaining surveillance at Rancho Seco." What do you mean by that, sir?

A Well, we were required to man the B&W plants after Three Mile Island throughout the country, and we maintained

1 surveillance at the facility. We usually had two to three  
2 inspectors on a rotating basis so that you could always  
3 contact an inspector who was either at the plant or in a  
4 nearby motel if there was something that needed to be done at  
5 the facility or if there was some problem that would come up  
6 at the facility.

7 Immediately following Three Mile Island, as you  
8 probably recall, there was an enormous amount of immediate  
9 attention and governmental attention and everything else  
10 happening there at once, and there were a lot of questions  
11 raised and doubts and fears expressed, and the inspectors  
12 were basically there to obtain information if information  
13 were required by headquarters, or to change the licensee's  
14 method of operation if it was determined that was necessary  
15 for the safety of the public. So that was our scope and  
16 purpose.

17 Q Thank you. On page 5 you refer to the new employee  
18 orientation program, and you identify and describe briefly  
19 the five major portions. How extensive is that program?  
20 How many hours of training would be involved in the five  
21 major programs? Not individually, but total.

22 A We're talking about two or three working days.

23 Q On page 8 of your testimony, Mr. Ellison was asking  
24 you about the self-instruction booklets, and I believe he  
25 asked you a question about how the course was monitored.

1 I don't recall exactly what you said there, but how is it  
2 determined? How does one determine that the course is  
3 completed? Is it examination and a certain grade, or what,  
4 sir, do you know?

5 A The employee is given a set of these self-taught  
6 pamphlets when he goes to work as an operations person, and  
7 the person then can read through the booklets at his or her  
8 leisure, and it's sort of a self-study guide. And then  
9 periodically, there are tests that are given and graded  
10 and records maintained by the training coordinator. At  
11 least, when I examined it it was done this way. The training  
12 coordinator kept the record of what the results were and how  
13 many of these booklets had been completed.

14 I think something like -- you had to complete the  
15 first 10 or 20 booklets before you could advance to a position  
16 of equipment attendant. I'm sure the SMUD people could  
17 bring light on that, but anyway, the first 10 or 20 booklets  
18 had to be completed before you could advance from power  
19 plant helper to equipment attendant, and you had another  
20 10 or 5 booklets before you could go to auxiliary operator,  
21 and then another 20 or 30 booklets you had to go through and  
22 satisfactorily pass the information before you could go into  
23 training for a licensed operator.

24 Q Do you know how the exams are administered, or are  
25 the exams administered at the request of the student? Or is

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1 some time schedule set out by the training officer?

2 A As I recall, they had some time factor but I  
3 don't remember how they decided when to give the tests. I  
4 think that was based on the individual. If a person di<sup>n</sup>'t  
5 want to take the test, I don't believe anybody would force  
6 him to.

7 Q All right, sir. At the bottom of part of page 9  
8 you refer to the auxiliary watch station. What is that, sir?  
9 In Item C on page 8, towards the bottom of the page.

10 A One of the auxiliary watch stations was basically  
11 the desk across from the radioactive waste disposal system  
12 control panel, and the other one was at the condensate  
13 demineralizer. At the condensate demineralizer there was  
14 like almost a building within the turbine building that was  
15 soundproof and you could shut the doors and get away from  
16 the equipment noise so you could talk to people in a  
17 reasonable tone of voice and take the earplugs out of your  
18 ears if the noise had bothered you. There are other auxiliary  
19 watch stations. What I meant by that was secondary to the  
20 main watch station which is, of course, the control room.  
21 There are other places in the plant.

22 Q I understand. On the top of page 9 -- this is  
23 still on Question 8 -- you referred to uncontrolled copies  
24 of procedures and controlled copies of procedures. Could  
25 you tell me what the procedure is, the procedure that they

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1 used at Rancho Seco for maintaining controlled copies?

2 How is it controlled; by whom and how?

3 A They have an administrative procedure that describes  
4 the controls for procedures, and if a change to a procedure  
5 came out or was issued by the utility, an approved change,  
6 then that would be sent to the shift supervisor. And as I  
7 recall, there was one person designated to do this and that  
8 person had responsibility for taking that change and either  
9 personally or delegating someone else to go out and insert  
10 the change in the copies of the procedures around the plant.  
11 Now, they have a list of controlled procedures, and it seems  
12 to me the controlled procedures would include the ones in  
13 the control room, of course, and also the ones at these  
14 auxiliary watch stations. And of course the station superin-  
15 tendent has one and the plant manager has one, the operations  
16 supervisor has one. And when the change is entered, then  
17 whoever changed it is required to send back a little slip  
18 of paper saying that the change has been entered into copy  
19 number 23 of the plant procedures. And that goes back to  
20 the person who initiated the changes so they can verify the  
21 change has been entered.

22 The changes -- well, does that answer the question?

23 Q Yes, it does, thank you. I just have one more  
24 question, Mr. Morrill, and it's just a small confusion on  
25 my part which I'm sure you'll be able to clear up. In your



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1 testimony on unlicensed operator trainees or unlicensed  
2 operators, you indicated that the average is 3 to 7 per shift.  
3 With respect to licensed operators, the applicant has put  
4 testimony in that they have at least 3 licensed operators per  
5 shift; maybe more than that on the day shift, but at least  
6 3, having a total of 24 licensed operators, and with the  
7 number of shifts they have it wouldn't be much more than 3  
8 on the average.

9 So that means we've got slightly more than three  
10 licensed personnel and somewhere between 3 and 7 unlicensed  
11 operators. So that gives us somewhere between 6 and 10  
12 licensed and unlicensed operators in the plant on any given  
13 shift.

14 Every time I've been into a plant there have been  
15 a lot more people than that at the plant. Who are these  
16 other people?

17 A During the day -- I agree with your observation,  
18 by the way. During the day you have the day shift of  
19 people on, so that's really almost like having two watch  
20 sections on at the same time. Also, people in various  
21 training statuses will be usually in the vicinity of the  
22 control room has been my experience, either to borrow the  
23 procedures or read the procedures or looking at the piping  
24 diagrams or to query the operators for information.

25 Often too, especially on the day shift again, the

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1 maintenance people will be around and they always look to me  
2 exactly like the operations personnel, they dress about the  
3 same and they often look like they're doing about the same  
4 kind of work. So it's not easy to tell. The time you  
5 really see it is on the offshift coming on the midshift  
6 and you'll find -- I generally would find one person in the  
7 auxiliary building down by the rad waste panel and maybe one  
8 or two people out by the condensate demineralizers, and  
9 everyone else would be congregated up by the control room.  
10 Maybe one person would be outside of the plant taking a tour  
11 or doing something, but you really see a real crowd of  
12 people during the day and when you get to late in the swing  
13 shift or in the midshift and it's very deserted except for  
14 the guards and the few people around the plant.

15 Q So I get the impression that most of these people  
16 that you see during the day, a significant portion of them  
17 would be maintenance people?

18 A I would think so.

19 Q And other operators that are in training and happen  
20 to be there on the shift?

21 A Yes, sir, that's generally how I would describe  
22 it. Usually, there's an offshift. You'll have the four  
23 shifts and then you'll have a fifth shift with some people  
24 or the day shift, people coming during the days who will do  
25 administrative work although they're assigned to the Operations

1 Department they'll be doing training, and very often they  
2 will be around the plant. So you probably have -- usually  
3 your day shift is the biggest section anyway because you  
4 usually do your major operations during the day, so you have,  
5 say, 7 unlicensed persons and say 3 licensed persons on  
6 watch; that's 10 people. Then you have maybe the people in  
7 training and people doing the administrative work for the  
8 Operations Division; that's probably another 6, 7, 8 persons  
9 and then you probably have 10 maintenance people or more  
10 around the plant and maybe some subcontractors. So by the  
11 time you add it up, you'll find 40 or 50 people wandering  
12 around doing various activities. Maybe an inspector.

13 DR. COLE: All right, sir, thank you.

14 BY MRS. BOWERS:

15 Q In your testimony and also in the CEC 39 is the  
16 only place in this proceeding where I've seen a reference  
17 to he or she in connection with other than the typical  
18 traditional pink collar work for women. In your investigation  
19 in talking with people, did you find that some of the people  
20 with problems, that there was a high percentage of women or  
21 working mothers that felt they couldn't go on in their role  
22 or had special problems?

23 A No, I didn't find that to be a problem. In my  
24 interviews, I didn't have occasion to talk to any women.  
25 I think SMUD employed either one or two at the time I was

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1 there in the Operations Department. I haven't heard of any  
2 problems that any women have had there working or any diffi-  
3 culties that have come up because they were women or because  
4 they were pregnant or anything like that.

5 Q Were any of the complaints based on the commuting  
6 distance to drive?

7 A No, I didn't receive any of those.

8 Q Were any complaints addressed to people who were  
9 onshift drinking or with hangovers?

10 Now the reason I ask this, FAA has very strict  
11 rules for controllers, and they can't have anything more  
12 than 8 hours ahead of when they're to report onshift.

13 A I think that did come up in one case. Somebody  
14 mentioned that about a shift relief and the person I was  
15 talking to was not the person who had been drinking, but  
16 this person was very unhappy with the person they had  
17 relieved.

18 Q So there is the procedure when someone shows up  
19 under the influence or hungover to pull that person off the  
20 shift?

21 A Well, I talked about that, as I recall, and it  
22 seems to me the way to handle would be if a person came on  
23 watch and was not ready to handle the watch, for whatever  
24 reason, physically or mentally, then the person who they  
25 were taking the watch from should identify the problem to their

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1 shift supervisor before they leave. And in any case, the  
2 next person who comes on watch finding somebody who had done  
3 a very poor job of keeping up the records or operating the  
4 equipment could identify that to his or her shift supervisor,  
5 and basically through the shift supervisors and the operations  
6 supervisor get the problem handled.

7 I have the feeling that if this happened repeatedly,  
8 I would certainly hope that management would take a strong  
9 action.

10 MRS. BOWERS: Thank you.

11 BY MR. SHON:

12 Q I have only about two questions. The first pertains  
13 to that portion of your testimony where you described the  
14 complaint about lack of communication. It seemed to me that  
15 it was chiefly a complaint about lack of downward communica-  
16 tion; that is, the complaint that I have heard frequently in  
17 many places is that the boss doesn't tell me what he wants  
18 me to do; the chiefs don't tell the Indians.

19 I guess what I'd like your assessment of is do you  
20 think that situation is worse at Rancho Seco than at other  
21 places, about the same or better?

22 A I think it's about the same.

23 Q In other words, they're not outstandingly one way  
24 or the other you'd say?

25 A I can only compare it to Trojan and Humboldt Unit 3

1 and Diablo Canyon and San Onofre Unit 1, having some  
2 knowledge of all those. And they all have some problems in  
3 that area of downward communication.

4 Q On page 8 of your testimony and also, in your  
5 report at several points you mentioned training on the  
6 condensate polishers. And at page 8 you have in parentheses  
7 after the words "condensate polishers", (non-safety-related  
8 equipment). They are, in a sense, non-safety-related of  
9 course, but is it not difficulty with the condensate polisher  
10 that touched off the Three Mile Island incident?

11 A You're quite correct, sir. Ultimately, speaking  
12 for myself, I feel everything is connected with everything  
13 else, so where do you draw the line with safety-related  
14 equipment? Our regulations have some very specific defini-  
15 tions, but when we look into licensee activities we always,  
16 at least the people I work with, try to go further and examine  
17 a little further into the plant. You just don't stop and  
18 say this is safety-related to this wall; now we're not going  
19 to look at what's on the other side of the wall. Inevitably,  
20 we do look on the other side of the wall and you find things  
21 that have potential or actually are affecting safety-related  
22 systems. And, of course, that's why we got into that,  
23 realizing right away that a trip of a nuclear unit is not a  
24 desirable occurrence, and you can certainly initiate one with  
25 a condensate system, condensate polishers, and that in fact

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1 was the initiating event at Three Mile Island. So we felt  
2 we didn't need any of those in Region V and we insisted that  
3 something be done about it.

4 So where you draw safety related, I've argued that  
5 before with licensees and we'll carry it out quite a ways  
6 if we think it's right.

7 MR. SHON: Thank you, I have no further questions.

8 MRS. BOWERS: Mr. Black, the Board has no more  
9 questions.

10 REDIRECT EXAMINATION

11 BY MR. BLACK:

12 Q I have just one question, I believe. You have  
13 referred to the training of unlicensed personnel as a result  
14 of TMI. You've referred to it in your testimony, it's in  
15 CEC Exhibit 39 and also you were asked questions by Mr.  
16 Ellison with regard to that training. And one of those  
17 questions I believe you mentioned that the training consisted  
18 of control procedures for the full-flow reset valve or  
19 FWS055. Is that the only training that unlicensed personnel  
20 had as a result of TMI?

21 A No, there was more than that. There are several  
22 feedwater system-associated valves in that area of a plant.  
23 And the training they received was to make sure they knew  
24 which valves to open and which valves to shut and which valves  
25 to throttle in the event there was a loss of power to some of

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1 the valve operators or if a valve was in the wrong position  
2 or if there was a total loss of auxiliary feedwater pumps.  
3 So there was more to it than that; there were several valves  
4 involved, and it was being capable -- the most significant  
5 thing, I suppose, is throttling the valves and controlling  
6 the flow to the two steam generators based on the direction  
7 of the operators in the control room. That's why the  
8 phone communication was important.

9 Q Were they also instructed as to the proper valve  
10 lineups to obtain alternative sources of water?

11 A Yes, I believe so.

12 Q For the feedwater system.

13 A Yes.

14 MR. BLACK: No further questions.

15 MRS. BOWERS: Mr. Baxter?

16 BY MR. BAXTER:

17 Q Just one clarifying question. On page 8 you're  
18 discussing the self-instruction booklets dealing with basic  
19 engineering and physics concepts. I believe Mr. Ellison  
20 asked you whether all personnel receive these and you said  
21 yes. Did you mean all operations personnel?

22 A All operations personnel.

23 MR. BAXTER: Thank you, that's all.

24 MRS. BOWERS: Mr. Ellison?

25 MR. ELLISON: No questions.

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MR. BLACK: May the witness be excused?

MRS. BOWERS: You're excused.

(The witness was excused.)

MR. BAXTER: Mrs. Bowers, we have one matter we'd like to bring up, not to discuss in any detail now but just to alert you. The parties have been discussing a post-hearing schedule and we are of the unanimous opinion that the time period provided in the Rules of Practice for proposed findings won't be adequate for us, given the length of the record here. So we have stipulated to a schedule we would like to discuss with you at the end of the day, but I thought it might be helpful for you to have it over your luncheon recess so I'll hand this out after we go off the record.

MRS. BOWERS: Fine. We'll recess for lunch for one hour.

(Whereupon, at 12:00 p.m. the hearing in the above-entitled matter recessed for lunch, to reconvene at 1:00 p.m. the same day.)

A F T E R N O O N S E S S I O N

(1:00 p.m.)

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3 MRS. BOWERS: We would like to commence. A

4 preliminary matter, just before the luncheon break, we were

5 given -- the board was given copies of the parties'

6 stipulated proposed post-hearing schedule dealing with

7 transcript corrections and proposed findings of fact.

8 Now, this is slightly stretched out over the

9 times that are in 7-54. We have reviewed it and we think

10 it is reasonable. We accept it.

11 MR. BAXTER: Mrs. Bowers, I would suggest that

12 the board order the schedule followed. We have prepared

13 enough copies for the reporter to insert it into the

14 transcript at this point, if that would be convenient.

15 MRS. BOWERS: All right.

16 (The document referred to follows.)

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PARTIES' STIPULATED PROPOSED

POST-HEARING SCHEDULE

On or before

- May 30: Proposed transcript corrections by all parties.
- June 9: Responses, if any, to proposed transcript corrections of other parties.  
  
(ASLB ruling on proposed transcript correction disputes, if any.)
- July 8: Licensee's proposed findings of fact and conclusions of law.
- July 29: California Energy Commission's proposed findings of fact and conclusions of law.
- August 19: NRC Staff's proposed findings of fact and conclusions of law.
- August 29: Licensee's reply findings, if any.

bfm2

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1 MRS. BOWERS: When you suggest the board order it  
2 to be followed, do you think something else is needed other  
3 than accepting the stipulation?

4 MR. BAXTER: I would prefer to have the board  
5 direct that the schedule be followed, yes.

6 MRS. BOWERS: We are directing the parties to  
7 follow the schedule in their stipulation.

8 MR. BAXTER: Thank you.

9 MR. BLACK: At this time, the staff would like to  
10 call to the stand, Darrell G. Hinckley and James E.  
11 Gagliardo.

12 Whereupon,

13 DARRELL G. HINCKLEY

14 AND

15 JAMES E. GAGLIARDO

16 were called as witnesses for the NRC Staff and, having  
17 been duly sworn, were examined and testified as follows:

18 MR. BLACK: I might preface my introduction of  
19 these witnesses by indicating both witnesses are members of  
20 the Performance Appraisal Branch, a branch of the Office of  
21 Inspection and Enforcement. I will let them tell exactly  
22 what their function was with respect to the Rancho Seco  
23 review.

24 I would also indicate that I -- that the staff  
25 filed this testimony with the board and parties a week ago.



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1 I believe it was May 7. So, obviously it has been prefiled,  
2 but we all recognize that we have not had that much time  
3 to review it and we will proceed accordingly.

4 DIRECT EXAMINATION

5 BY MR. BLACK:

6 Q Let me first go to Mr. Gagliardo. Could you state  
7 your name and position with the NRC for the record?

8 A (Witness Gagliardo) Yes. My name is James E.  
9 Gagliardo. I am the acting Branch Chief of the Performance  
10 Appraisal Branch in the Office of Inspection and Enforcement.

11 Q What has been your position with respect to the  
12 review at Rancho Seco and the submission of this testimony?

13 A My position as the acting branch chief has been  
14 to provide overall direction and coordination for the  
15 inspection effort.

16 I have not been involved in the inspection effort.  
17 Mr. Hinckley, to my right, is the team leader and will be  
18 able to address specifics about the inspection. Mine is  
19 strictly an overview function as the Branch Chief.

20 Q Mr. Hinckley, could you state your name and  
21 position with the NRC for the record, please?

22 A (Witness Hinckley) My name is Darrell G. Hinckley.  
23 I am an inspection specialist in the Performance Appraisal  
24 Branch of the office of I & E.

25 My role in the inspection at Rancho Seco is the



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1 team leader of five team members, including myself who  
2 performed the inspection.

3 Q Where did these team members come from?

4 A We are all members of the Performance Appraisal  
5 Branch; however, we are scattered around the country. Two  
6 came from out Region III office, one from our Region I office,  
7 one from the Region V office. I am from the Region II office.

8 Q I guess I will address my remarks to you. Do you  
9 have before you a copy of the supplemental testimony of NRC  
10 Performance Appraisal Branch regarding SMUD management  
11 control?

12 A Yes.

13 Q Do you have any additions or corrections to that  
14 testimony?

15 A No.

16 Q Do you adopt this as your testimony in this  
17 proceeding as being true and correct to the best of your  
18 knowledge?

19 A Yes.

20 Q Mr. Gagliardo, do you adopt this testimony in  
21 this proceeding?

22 A Yes, I do.

23 MR. BLACK: I might also indicate that the  
24 professional qualifications of Mr. Hinckley and Mr. Gagliardo  
25 are attached to the testimony. At this time, we would move

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1 for the incorporation of this testimony and the professional  
2 qualifications in the record as if physically read to  
3 constitute evidence on behalf of the regulatory staff.

4 MRS. BOWERS: Mr. Baxter?

5 MR. BAXTER: Mrs. Bowers, I have no objection, with  
6 one exception. That is the paragraph of the offered testi-  
7 mony that begins on the bottom of page 2 and proceeds onto  
8 page 3, entitled "Fire Protection."

9 It would be our position that this testimony is  
10 not relevant to the subject matter of this hearing. I do  
11 not believe that when the Commission last summer authorized  
12 the board to investigate, if raised, the management compe-  
13 tence of the utility, it had in mind considering these kinds  
14 of matters.

15 I would submit it is outside the scope of the  
16 hearing.

17 MRS. BOWERS: Mr. Ellison -- first, Mr. Black,  
18 do you want to respond?

19 MR. BALCK: Well, here again, an objection is  
20 raised to some aspect of a plant system that perhaps may  
21 not be directly related to the May 7 order; yet, overall,  
22 it does relate to SMUD's management capability.

23 Now, certainly this testimony does deal with  
24 management controls. In that respect, we think the fire  
25 protection criteria is part of management control. There-



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1 fore, is under the purview of the board's jurisdiction in  
2 this case.

3 Also, it would be difficult at this time to divorce  
4 really what this review team has been doing with respect to  
5 Rancho Seco. From that context, we would like to have it  
6 all inclusive. Therefore, we would submit that it should be  
7 included.

8 MRS. BOWERS: Mr. Ellison, do you have a position  
9 on this?

10 MR. ELLISON: Yes, ma'am. I would concur with  
11 Mr. Black's remarks. I think management competence is  
12 necessarily a broad issue that touches upon a variety of  
13 plant systems and personnel. I think that in considering  
14 management competence, which is clearly within the scope of  
15 this proceeding, that the paragraph on page 2 is relevant.

16 (Board conferring.)

17 MRS. BOWERS: Well, I assume it was a motion to  
18 strike, Mr. Baxter. It is denied. We do think this has a  
19 relevancy to management competency.

20 MR. BLACK: The witnesses are available for  
21 cross examination.

22 MR. BAXTER: Actually, Mrs. Bowers, it was a  
23 partial objection to the offer. I do not think you have  
24 ruled on the overall offer of the testimony.

25 MR. BLACK: That is true.

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MRS. BOWERS: Let me go on. You have no objection other than that one paragraph?

MR. BAXTER: That is true.

MRS. BOWERS: Mr. Ellison?

MR. ELLISON: We have no objection.

MRS. BOWERS: The document which you have identified will be physically inserted in the transcript as if read, and is admitted into evidence.

(The document referred to follows.)

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
 )  
SACRAMENTO MUNICIPAL UTILITY ) Docket No. 50-312 (SP)  
DISTRICT )  
 )  
(Rancho Seco Nuclear Generating )  
Station) )

SUPPLEMENTAL TESTIMONY OF NRC PERFORMANCE  
APPRAISAL BRANCH REGARDING SMUD MANAGEMENT CONTROLS

Introduction

The IE Performance Appraisal Branch (PAB) has completed the major portion of a management appraisal inspection at the Rancho Seco Facility (Docket No. 50-312). Preliminary findings from this inspection have resulted in a number of concerns which may be relevant and material to the issues being considered by the Rancho Seco Board.

It should be emphasized that the PAB inspection activities at Rancho Seco will not be completed until May 8, 1980, and the final inspection reports will not be issued until about July 1, 1980. The preliminary concerns addressed herein may be resolved by the subsequent inspection and review efforts of the team. The concerns are presented at this time because the board hearings are scheduled during the week of May 12, 1980 and the final PAB reports will not be issued until about July 1, 1980.

PAB Inspection Criteria

The PAB concerns are primarily involved with the Licensee's management



control systems in several of the functional areas reviewed by PAB.

The orientation of the PAB management appraisal inspections is to determine how the licensee manages licensed activities to assure continued compliance with regulatory requirements and guidance. This differs from the regional based inspections which are oriented toward verification that the Licensee is in compliance with the regulatory requirements and guidance.

The fact that PAB has concerns with a Licensee's management controls does not indicate that the Licensee's management is not competent to manage their reactor facility. A Licensee with a weak or less formalized management system may have a strong operation because it has a strong, well qualified, and experienced management team. The PAB concerns, however, are based on the fact that future turnover of management personnel could result in problems if a strong management system has not been established to support the new managers who may not be so strong or experienced as their predecessors.

#### PAB Concerns

PAB's concerns relate to the management controls in seven of the eleven functional areas reviewed in the management appraisal inspections. The concerns in each of these areas are discussed below.

(Fire Protection) - The Licensee had not performed all of the fire drills required by the technical specifications (TS). The Licensee's fire fighting procedures did not address fire fighting in specific plant areas (e.g. cable spreading room, diesel generator room, etc.) nor was there specialized training

for new Fire Brigade members. It appeared that management had not exercised sufficient initiative in resolving problems identified in connection with fire drills and in formalized fire fighting training.

(Training) - The Licensee issued procedures defining the training requirement for non-Licensee personnel, but had not fully implemented these requirements. The training coordinator and the departmental supervisors had an inadequate system for readily determining an individual's training status. This had resulted in several Licensee employees, who had been at the site in excess of one year, not receiving training required in their first six months of employment. The training program for Licensed operators had not been fully implemented and training records for the operators were not adequately controlled to assure retrievability.

(Corrective Action System) - QA audit findings are not being routinely entered into a corrective action system for resolution. Certain non-supervisory personnel were not aware of the "Reportable Occurrence Report" used to document events and conditions for management evaluation and resolution. Nonconformance Report status was updated monthly but there were items in this system which had remained open for two, three and as much as five years.

(Design Change and Modifications) - The Licensee's procedures for the review of design changes to Class I systems did not provide for a second level of safety evaluation if the first Level review (Supervisor of Engineering and QA) determines that it did not involve a 10 CFR 50.59 type change. This practice bypassed the review by the Plant Review Committee (a TS requirement) and the Plant Superintendent. The Licensee also had an "Abnormal Tag Procedure" which permitted minor modifications to Class I systems without a determination of 10 CFR 50.59 applicability.

(Maintenance) - The Licensee had a limited number of maintenance procedures in the Instrument and Control area. The Licensee used the vendor technical manuals for maintenance in this area, but did not have an adequate mechanism for controlling the technical manuals to assure that they were maintained up-to-date. The Licensee had not periodically reviewed certain maintenance procedures or technical manuals. Inspections (QC) of maintenance activities did not include an inspection of the preparation activities prior to the maintenance or the functional testing following the maintenance.

(A) (QA Audits) - The licensee had committed to ANSI N45.2.12, but its audit program did not contain all of the features required by this standard. QA audited few of the activities conducted by operations personnel; they did not audit the preventive maintenance system; nor did they monitor surveillance activities or major maintenance activities. Management had decided not to perform four scheduled and TS required audits because of the refueling outage. Several audits had not been conducted within the time requirements for them, or had not been conducted at all. The adequacy of several audits in their scope and depth and the procedures by which they were conducted raised questions as to the ability of the audit program to serve as an effective, independent review function.

(B) (Committee Activities) - The offsite committee had not performed a semi-annual audit of corrective actions taken to correct deficiencies as required by the TS. Commitments for the offsite committee to conduct annual audits of QA audit implementation and for periodic onsite reviews by certain management groups had not been met. The onsite committee had not reviewed all TS violations and reported to management the actions required to prevent

recurrence. They did not review NRC reported violations, QA audit findings, and reportable occurrences which had been determined not to be reportable but which did involve TS violations.

#### Conclusions

The preliminary findings discussed above identify weaknesses in the content and implementation of the Licensee's management controls. These weaknesses do not warrant immediate action on the part of the licensee at this time. We expect, however, that the Licensee will be requested to review these areas and the conclusions identified in the final reports and determine if appropriate action to resolve these concerns would enhance the continued safe operation of the Rancho Seco facility.

Darrell G. Hinckley

STATEMENT OF PROFESSIONAL QUALIFICATIONS

My name is Darrell G. Hinckley. I was born June 1, 1930, at Medford, Oregon. I am employed by the Nuclear Regulatory Commission as an Inspection Specialist in the Performance Appraisal Branch (PAB), Office of Inspection and Enforcement.

I graduated from the University of Idaho in 1958 with a BSEE degree and received an MBA degree in 1972.

I worked for Westinghouse Electric Corporation at the Naval Reactor Testing Station in Idaho from October, 1958, to January, 1963. I was a qualified Chief Operator and Assistant Shift Supervisor at the SIW submarine prototype.

I worked for Argonne National Laboratory at the Experimental Breeder Reactor Facility No. 2 (EBR2) in Idaho from January, 1963, to July, 1974. I was a qualified shift supervisor and Operations Engineer at the reactor facility.

From July, 1974, to the present, I have been employed by the NRC/AEC as a Reactor Inspector and Inspection Specialist. As a reactor inspector I was qualified to inspect Boiling Water Reactors (BWR) and Pressurized Water Reactors (PWR), and have been a project inspector for both types of reactor facilities. I was selected as an Inspection Specialist in the Appraisal Branch in August, 1979. I have participated in two management inspections; one as the team leader.

James E. Gagliardo

STATEMENT OF PROFESSIONAL QUALIFICATIONS

My name is James E. Gagliardo. I was born August 31, 1937, at Breese, Illinois. I am employed by the U.S. Nuclear Regulatory Commission as an Inspection Specialist in the Performance Appraisal Branch (PAB), Office of Inspection and Enforcement. I have been the acting Branch Chief of PAB since November, 1979.

I was graduated from the University of Missouri at Columbia in June, 1960 with a Bachelor of Science Degree in Chemical Engineering. I also received a Master of Science Degree in Nuclear Engineering in August, 1973 from the University of Missouri at Columbia. I am a registered Professional Engineer (Nuclear) in the State of Texas.

Upon the completion of my undergraduate degree I was commissioned as an Ensign in the U.S. Navy. From June, 1960, through January, 1964, my naval duties included two tours of duty on naval destroyers, one as an officer in the Operations Department, and one as the Engineering Officer. I attended the Navy's Nuclear Power Training Program from January, 1964 through January, 1965. I was then assigned to the staff of the Navy Nuclear Power Training Unit in West Milton, New York as a Leading Engineering Officer of the Watch (Lead Instructor). In this capacity I was responsible for the training and qualification of the officers and enlisted personnel assigned to the Training Unit for training. From November, 1965, through January, 1967, I was assigned as the Mechanical Division Officer of the Training Unit with the responsibility for the operation and maintenance of all reactor and secondary mechanical systems.

I was a full time graduate student and a part-time teaching assistant at the University of Missouri (Columbia) from January, 1967, through May, 1968. From June, 1968, through August, 1969, I was a full time instructor in the Nuclear Engineering Department at the University of Missouri.

From September, 1969, through July, 1974, I was employed as the Associate Reactor Supervisor and the Reactor Supervisor at the University of Missouri Research Reactor Facility in Columbia, Missouri.

From August, 1974, to the present, I have been employed by the NRC/AEC. I was a Reactor Inspector through April, 1978, and my duties included the performance of inspection and investigations of power reactors in the operational and pre-operational testing phases. I was qualified to inspect Boiling Water Reactors (BWR's) and Pressurized Water Reactors (PWR's) and have been the principal project inspector for both types of reactor facilities. I was selected as an Inspection Specialist in the Performance Appraisal Branch (PAB) in April, 1978. I have been actively involved in the development of PAB's Management Appraisal and Program Appraisal methodologies. I have participated in four management appraisal inspections and was the team leader for two of the inspections. I have been the Acting Chief of PAB since November, 1979.



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1 MR. BLACK: Now, the witnesses are available for  
2 cross examination.

3 MRS. BOWERS: Mr. Baxter?

4 CROSS EXAMINATION

5 BY MR. BAXTER:

6 Q Mr. Hinckley, would you estimate to date the  
7 members of the Performance Appraisal Branch have invested  
8 approximately one man-year in their effort in connection  
9 with Rancho Seco?

10 A (Witness Hinckley) I would say that would be a  
11 fair estimate. We, as a team, spent about 500 hours either  
12 at the site or at the corporate office, plus our preparation  
13 time.

14 It would be considered about a man-year of effort.

15 MR. BAXTER: I have no other questions.

16 MRS. BOWERS: Mr. Ellision?

17 BY MR. ELLISION:

18 Q Mr. Hinckley, I will address my questions to you.  
19 However, if either of you have something you can contribute  
20 to the answer, Mr. Gagliardo, please feel free.

21 Beginning at page 2, where you begin to set forth  
22 your concerns with respect to Rancho Seco, you mention that  
23 your concerns fall into seven of eleven functional areas  
24 reviewed. Could you tell me first of all -- first of all,  
25 briefly identify the remaining four functional areas that



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1 you reveiwed at Rancho Seco where you determined you had  
2 no concerns.

3 A (Witness Hinckley) One of them would be in the  
4 in-service inspection program. One was in procurement,  
5 one was in security, and review of plant operations.

6 Q Could you describe in a little more detail what  
7 you mean by plant operations and what do you mean by the  
8 in-service inspection program?

9 A The in-service inspection is primarily the  
10 inspection performed on the integrity of the system.  
11 Normally, performance is done during an outage. At Rancho  
12 Seco, this in-service inspection is contracted by B & W.

13 They come in during an outage and perform this  
14 inspection. It involves checking wells, doing UT work and  
15 that type of thing.

16 The operation strictly would be looking at the  
17 operations of the operating crew. The standing orders, the  
18 instructions and that type of thing.

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1 Q With respect to operations in the context of your  
2 statement at Page 2 in the second -- the first full para-  
3 graph as to what the Performance Appraisal Branch was looking  
4 for, would I be correct in assuming that you were looking  
5 primarily at the administrative controls, the way procedures  
6 were transmitted, standing orders, that sort of thing?

7 A We were primarily interested in how the licensee  
8 performs their function or activities or administrative  
9 instructions provided that tells various groups what is  
10 expected of them, the responsibilities being defined, are  
11 people aware of their responsibilities, the feedback between  
12 the operations people and management, how they are aware  
13 of problems in the field, how these problems are tracked  
14 and resolved.

15 Q Could you briefly describe how the eleven  
16 functional areas were selected?

17 A Perhaps Mr. Gagliardo could answer that question  
18 better. He was involved in the initial development of the  
19 program.

20 A (Witness Gagliardo) The areas that we inspect  
21 in our management appraisal inspection effort essentially  
22 parallel the areas that are inspected in the regional based  
23 inspection program. We do our inspections from a little  
24 different tack whereas the regional inspections are  
25 oriented towards verifying that the licensee is in compliance

1 with his regulatory requirements. Our management appraisal  
2 inspections are looking at how the licensee manages those  
3 functional areas to ensure continued compliance, and so  
4 those functional areas just came out of the routine inspec-  
5 tion programs that the regions are implementing.

6 There is no special reason for this particular  
7 breakdown.

8 Q Mr. Hinkley, we had some testimony this morning  
9 pertaining to an investigation conducted by I&E at Rancho  
10 Seco last summer that identified or at least heard  
11 allegations pertaining to communication problems at Rancho  
12 Seco. You mentioned a moment ago that you in examining the  
13 operations category found no -- nothing that concerned you  
14 and that that also included communications in that general  
15 area.

16 Could you describe what your investigation of  
17 communications at Rancho Seco consisted of and what you  
18 found?

19 A (Witness Hinkley) Perhaps maybe I misunderstood  
20 your first question concerning -- When I speak of operations,  
21 I speak primarily of the operating crew, in operating the  
22 facility. From the standpoint of communications, what I  
23 would think to be communications as you are addressing would  
24 be management's awareness of those things going on in the  
25 overall operation of the facility. Problems which have been



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1 identified due to the QA program, and the protective  
2 action systems for reportable occurrences, and are these  
3 problems then being communicated to management. Is manage-  
4 ment being made aware of them? Are they communicating back  
5 to those who have identified the problems by taking the  
6 necessary corrective actions needed to correct the problems?

7 Perhaps you might want to rephrase your question.

8 Q Yes. With respect to these types of communica-  
9 tion problems or communication mechanisms such as you just  
10 describe, I am interested in some further detail on what  
11 you looked at and what you found.

12 A Okay. I think that the -- we found -- When I say  
13 "we" I am speaking for the members of the team. We found  
14 what we considered were some problems in the training of  
15 non-licensed personnel, in that the licensee had developed a  
16 procedure for training of non-licensed personnel, some nearly  
17 three years ago, and had not completely implemented that  
18 procedure.

19 Also, we found some problems in the QA department  
20 in that it was felt -- it was felt that the QA audits in  
21 some areas were quite shallow. They had missed some  
22 audits. The follow-up on some of their identified problems  
23 was lacking.

24 We also found some problems in the maintenance  
25 area in that the maintenance activities, it was felt, were

1 not being properly overviewed as far as inspection in  
2 preparation for maintenance, and in some cases in the  
3 testing following maintenance, in the corrective action  
4 system. There were things identified that was put into the  
5 corrective action system. Some of these items were in one  
6 case five years old. A couple of cases, three years old.  
7 And down to some 60 examples which were over a year old  
8 which had not been -- corrective action had not been  
9 taken.

10 We did not look at the significance of the items,  
11 only from the standpoint -- it appeared that the timeli-  
12 ness of corrective action may have been lacking. It is  
13 interesting to note that the problems we had in the  
14 training area, unlicensed training should encompass  
15 training of all members of the staff in procedures which  
16 apply to their particular work function, like corrective  
17 action procedures for those who would be putting input  
18 into the corrective action system, the controls in the  
19 maintenance system.

20 We noted that in the audit function, the QA  
21 audit function, some of the areas in which they had not  
22 performed audits, one was training, one was preventive  
23 maintenance. Also, it was identified that in the area of  
24 maintenance audits, that they were very shallow, in that  
25 one of the requirements was to look at maintenance





1 activities and over the last two years they identified some  
2 eight activities which had been witnessed by the auditing  
3 organization, and they were very minor type of maintenance  
4 activities.

5 Most of them had very little to do with any  
6 safety type system maintenance, but the fact that the  
7 audit -- weaknesses in the audit function appeared -- the  
8 same weaknesses appeared in the areas which were not  
9 audited adequately. There was a correlation there between  
10 the weaknesses of the organization -- the same weaknesses  
11 appeared in the actual activities.

12 Q One of the issues in this proceeding is how  
13 licensed operators are made aware of the operating  
14 experience at other facilities. You mentioned in your  
15 operations review that you examined -- I believe you used  
16 the word "feedback." Did you look at this question?

17 A We looked at the -- Not I specifically, but one  
18 of the team members looked at the licensed operator training.  
19 It was not identified from that standpoint of their awareness  
20 or how they were made aware of problems in the facilities.  
21 It was identified that they were not timely made aware of  
22 modifications to their own facility.

23 Q Have you looked at the standing order program?

24 A That may have been looked at by the individual that  
25 looked at the operating activities. I am not aware of the



1 findings in that area. Apparently there was not anything  
2 which was irregular.

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1 Q With respect to all of the areas that you  
2 looked at, did you have some specific criteria that you  
3 were applying to Rancho Seco or was this a more subjective  
4 evaluation?

5 A No, we have criteria -- What we are trying to do  
6 is make a uniform appraisal from a national perspective of  
7 all licensees, and so we have developed an inspection check-  
8 list, if you want to call it that, which we inspect against  
9 so we are uniform as much as possible for each licensee we  
10 look at, and what we do here is, by looking at -- taking  
11 the tech spec requirements from the standard technical  
12 specification and taking the ANSI standards and regulatory  
13 guides and practices as recognized in the industry, we make  
14 up our inspection to reflect covering the major portions of  
15 these particular guides and standards.

16 Now, we may find that some licensees are committed  
17 to this particular standard. Their tech specs may required  
18 them to produce things in accordance with the standards and  
19 certainly what is in the technical specifications. However,  
20 when we do our inspection, we identify the fact that these  
21 are commitments by these licensees and these are regulations  
22 for this licensee.

23 If we find problems in there, naturally they are  
24 non-compliance. If we find items which they are not  
25 doing -- that they are not required to do, then they are

1 observations and as such we just report -- the report  
2 reflects these observations from the standpoint of no  
3 regulatory requirement.

4 Maybe Jim could clarify that.

5 A (Witness Gagliardo) Before we even sit down to  
6 develop the inspection checklist, we develop a management  
7 control system model that we were going to look at in each  
8 of these functional areas, and that model contained five  
9 basic features that we are looking at in each functional  
10 area.

11 We are looking first of all to see that the  
12 licensee has a written program of procedures to define the  
13 requirements for compliance in that area with their regula-  
14 tory requirements. We look at those procedures and written  
15 programs to determine that they are adequate, that they  
16 cover all of the regulatory requirements, regulatory  
17 guidance in each of those areas.

18 So, that is a generalized type area, but when you  
19 get into each of these functional areas, you feed into that  
20 specific, depending on what the functional area is.

21 The third feature that we look for is the awareness  
22 of the people that have been assigned responsibilities in  
23 that area. In other words, we interview the managers and the  
24 individuals who have been assigned responsibilities under  
25 the licensee's program to verify that they are aware of

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1 their responsibilities. We look then at the qualifications  
2 and training that these people have received, the people  
3 who have been assigned responsibilities, to verify that,  
4 first of all, they are qualified to perform that function,  
5 and that they have been trained and retrained to maintain  
6 their proficiency.

7 And fifth, we look at the implementation program  
8 and verify that the program requirements have been imple-  
9 mented. So, that management model is applied to all of  
10 these functional areas, and then you add to that the  
11 specific requirements of technical specifications, codes,  
12 standards, and guides for each of those areas, and from that  
13 then develop an inspection checklist.

14 Q How many licensees have you had the opportunity to  
15 examine in this way thus far?

16 A Rancho Seco was the seventh licensee to receive  
17 the full management appraisal inspection. We had begun an  
18 inspection at the Crystal River facility, and our team was  
19 on site at the time that Crystal River had the blow-down  
20 incident that occurred on February the 26th, I believe it  
21 was, this year.

22 So, that inspection was terminated at that time,  
23 because the team was pulled into service as far as  
24 coordinating with our Incident Response Center at head-  
25 quarters the licensee's corrective action to handle that



1 incident, so we have completed seven of them, although we  
2 have gotten started on eight.

3 Q Is it the same team that performs the inspection  
4 at each of the licensees?

5 A We try to keep the stability of the team such that  
6 you do not have too much interchange from one individual  
7 to another, but that has not been possible. The PAT  
8 organization has been, I guess you would say, unstable in  
9 the fact that it seems about as soon as we get a fellow in  
10 and train him, he is promoted out of the PAT organization.

11 So, it is one of the disadvantages that we have  
12 in terms of having some of the best people in the organiza-  
13 tion brought into the group, but we do try very much to keep  
14 the individuals inspecting only a certain number of areas,  
15 so that when it gets near the end of a year and we have to  
16 take a look at where these various licensees stand, and  
17 that we have maintained some consistency also because we are  
18 trying to get the national perspective, but no, we have not  
19 been able to achieve that 100 percent.

20 Q You mentioned at the end of the year when you  
21 review all of the licensees. Is it your goal to evaluate  
22 all of the licensees by the end of the year?

23 A We are finalizing an annual report from the  
24 inspections we did last fiscal year, which involved five  
25 of the licensees. At the end of this fiscal year, we should

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1 have another five licensees inspected, and we will then make  
2 an appraisal by an annual report that we will submit after  
3 this fiscal year.

4 Yes, we do try to get down and sit together  
5 and discuss the appraisals for each of the individual  
6 licensees, and try to determine where each one fits in the  
7 overall picture. That also falls on -- into the area of  
8 the systematic assessment of licensee performance, which is  
9 a program just recently implemented within NRC, which will  
10 have a review group consisting of senior managers from both  
11 the Office of Inspection and Enforcement, NRR, the Licensing  
12 Branch, and also from the new AEOD group, which is Analysis  
13 of Operating Data. That is what that acronym stands for.  
14 It is a newly formed group in headquarters.

15 We have senior managers from those three  
16 organizations who will make up a review group to review  
17 not only the input from the Proponents Appraisal Branch,  
18 and our inspection reports, but also inputs from the  
19 regional appraisal of licensee performance and appraisals  
20 done by NRR or the Licensing Branch of the organization.

21 Q How are licensees selected for this review?

22 A The original selections of licensees were based  
23 on a number of factors. We wanted to, first of all, have at  
24 least one licensee from each of the five regional offices.  
25 We wanted to try and have licensees with different types



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1 of facilities, in other words, some PWR's, some BWR's. We  
 2 wanted to try and get a mix of single unit sites and  
 3 multiple unit sites, and we also took the recommendations of  
 4 the regional offices. They provided us with their recommen-  
 5 dation that people who they felt for one reason or another  
 6 would like to have those people -- their management  
 7 evaluated, and this was how we operated the schedule for  
 8 the first year.

9 After TMI came along, we were asked by one of the  
 10 Commissioners to perform a management appraisal inspection  
 11 of all B&W licensees, and so we are currently involved in  
 12 doing that.

13 Crystal River was a B&W licensee. Oyster Creek,  
 14 who we did last fall, and now Rancho Seco.

15 MR. LEWIS: You do not mean Oyster Creek.

16 WITNESS GAGLIARDO: Not Oyster Creek. Oyster  
 17 Creek is not a B&W. We were asked to do that because Oyster  
 18 Creek was operated by Jersey Central Power Company, which is  
 19 a subsidiary of GPU, not Metropolitan Edison, but our current  
 20 program at our current schedule calls for us to try to  
 21 complete all of the B&W facilities.

22 Future inspections will be determined by the  
 23 results of the appraisals done by this systematic assessment  
 24 of licensee performance group.

25 BY MR. ELLISON: (Resuming)



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1 Q Was Rancho Seco selected primarily because it  
2 operates a B&W plant, or were there other considerations?

3 A Rancho Seco was selected because they were a  
4 B&W plant.

5 Q You mentioned, Mr. Gagliardo, you were trying to  
6 see how everybody fits into the picture at the end of the  
7 year. Recognizing that you have had only the opportunity to  
8 review, I believe you said, seven facilities, what is your  
9 preliminary view of how Rancho Seco falls in comparison to  
10 the other facilities that you have reviewed?

11 A It is difficult to say at this time, because you  
12 have to recognize we have just completed our inspection  
13 effort and the team members are sitting down now and taking  
14 voluminous notes on materials that they have collected to  
15 try and determine where the licensee stands in each of these  
16 functional areas.

17 So, I do not know if it would really be fair for  
18 the licensee to classify them now as to where they would  
19 fit within that group of seven people. I could give you  
20 an opinion that I have, but that could be changed as a  
21 result of the team having pulled together all of the  
22 inspection results, writing their report, and the final  
23 appraisal might be different than what perceptions might be  
24 now.

25 Q I recognize that, but I am interested in your

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1 opinion, having just completed this review.

2 A My opinion from what I have seen, and I have been  
3 involved in most of these inspections myself, and those  
4 that I was not involved in, I was the branch chief, I would  
5 classify Rancho Seco as in one of the lower groupings. We  
6 do not try and rank the licensees, and we do not intend to  
7 do that unless forced to do so. What we look at is, we  
8 classify licensees as those who have good management control  
9 systems average or a poor system, and I would say that  
10 Rancho Seco on the preliminary look puts them in that lower  
11 category.

12 Q Are the eleven functional areas that you set  
13 forth weighted in any way, or are they pretty much equal?

14 A No, we have not weighted any of those eleven  
15 functional areas, because we are not trying to come up with  
16 a ranking system, and saying that because three of the  
17 eleven areas have a classification of such and such, and  
18 you put some form of rating factor on that, you can come up  
19 with a final number. We have no intentions of doing anything  
20 like that.

21 So, we do not apply any rates to them.

22 A (Witness Hinckley) I think the management control  
23 you find in one area is reflected in other areas, so as  
24 far as that aspect, it is pretty uniform across the board  
25 of the eleven areas. If you find a problem in one area of



1 management control, you are usually going to find it in the  
2 others.

3 Q On Page 3 of your testimony, at the end of the  
4 first full paragraph, you note that "The training program  
5 for licensed operators had not been fully implemented."

6 What aspect of the training program had not been  
7 implemented?

8 A I can speak to that. The technical specifications  
9 specify that there will be a training and retraining program  
10 for the operating staff, and ANSI 18.7 defines the  
11 operating staff as being the operating -- the operating  
12 organization as being the people who operate, maintain, and  
13 support these activities, and the criteria for exactly what  
14 is required from the standpoint of non-licensed training is  
15 pretty nebulous.

16 However, in the case of Rancho Seco, there are  
17 certain training of non-licensed personnel which is a  
18 requirement for when they report to work, like the QA training  
19 and training in emergency plans and health physics, and areas  
20 like this, and these things are pretty much implemented at  
21 Rancho Seco.

22 There are cases where they have not given ther  
23 people the retraining within the period in which they have  
24 so specified in their training procedures. The area that is  
25 lacking in the training of non-licensed personnel is in the





1 area of procedures, for the engineering group, the  
2 maintenance group, those procedures that involve -- that they  
3 are involved with in their work function, like in maintenance,  
4 how to report non-conformances, work requests, and this  
5 type of thing.

6 The procedures at Rancho Seco for non-licensed  
7 training identifies in their procedure which they have  
8 developed a training program for these non-licensed  
9 personnel which identifies -- procedures will be identified  
10 for the man in his particular work area which he should  
11 review.

12 There should be training programs from the  
13 maintenance people and the craft people to keep their  
14 expertise and to give them additional training in the type  
15 of maintenance activities which they are performing, and it  
16 is in this area -- these areas that the -- at Rancho Seco  
17 that the training for non-licensed operators is not being  
18 done.

19 And also, the training records which are maintained  
20 for the individuals -- they have a training supervisor who  
21 maintains all the training records. Any training that is  
22 performed by any of the groups is forwarded to the training  
23 supervisor, and he puts it in a folder or a file for each  
24 individual, so that they have a compact record of each  
25 individual's training.





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1           However, the training programs as such does not  
2 provide for an easily identifiable status of each individual's  
3 training. In other words, QA training -- who needs  
4 refresher QA training, the only way that they can really  
5 determine that is to go through each individual's folder and  
6 look at his training and see when he had it the last time.  
7 There is no matrix that is being kept that identifies who  
8 needs training when, and in several instances, in our  
9 inspection on a sampling basis of training records, we have  
10 found individuals who have not received training. It is  
11 not documented in their records, and when asked -- when you  
12 approach the training supervisor concerning that individual,  
13 he really did not have a good reason why they had not had  
14 their training.

15           And the bottom line is, they really do not keep a  
16 very good status of each individual's training needs.

17           MR. SHON: Mr. Ellison, excuse me for a moment,  
18 but the paragraph on Page 3 labeled Training, there is what  
19 I think is probably a typo in my copy, although perhaps it  
20 is not. You refer on the second line of that paragraph to  
21 non-licensee personnel. Do you mean non-licensee?

22           WITNESS HINCKLEY: It should be non-licensed.

23           BY MR. ELLISON: (Resuming)

24           Q I would like you to refer to the last sentence of  
25 that paragraph, because in the beginning of that sentence you

1 refer to the training program for licensed operators not  
2 being fully implemented, and in your answer I believe you  
3 discussed unlicensed operators. Is this correct?

4 A (Witness Hinckley) Yes, the first portion we were  
5 talking about non-licensed operators. The last sentence  
6 is addressing licensed operators.

7 Q So it is your testimony that the training program  
8 for licensed operators has not been fully implemented?

9 A No, the training programs for non-licensed  
10 operators has not been completely implemented. There are  
11 some programs that have been implemented for licensed  
12 operators, but the implementation program is really there for  
13 the licensed operators.

14 Q Should the last sentence of that paragraph on  
15 Page 3, the first full paragraph, read, "The training  
16 program for non-licensed operators had not been fully  
17 implemented?"

18 A That sentence there really has nothing to do with  
19 the rest of the paragraph. It is a statement saying that  
20 licensed operators -- well, it does say that it is not  
21 fully implemented. The problem identified in the area for  
22 licensed operators was reviews made by the training super-  
23 visor of licensed operators. Licensed operators from my  
24 understanding have a training manual that they keep them-  
25 selves of their activities which they perform, like



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reactivity changes and that type of thing. The training supervisor is required to review these on some routine basis. In a couple of instances, he had not done that.

Also, records of operators' exams were not readily retrievable, and in a couple of cases oral exams, or a couple of operators which are supposed to be given on a yearly basis were not performed. So from that standpoint I guess you would say that they were not following their program.

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1 I guess you would say not fully implemented, the  
2 fact that they were not doing that in a couple of areas.

3 Q In the last part of your answer, you stated that  
4 in a couple of instances, oral exams for licensed operators  
5 had not been given. Would this be part of the exam for  
6 the requalification program?

7 A I am really not -- having not done that review  
8 myself, I am not sure which examinations were made reference  
9 to. It was exams required on an annual basis. I think it  
10 is part of their requal program that they are required to  
11 give an oral examination to evaluate their operators.

12 A (Witness Gagliardo) According the notes I have  
13 from the inspector who performed that inspection, he indi-  
14 cates that oral exams were not given to several licensed  
15 operators within the time allotted in their requal program.

16 So, those were oral exams required by the requali-  
17 fication program that had not been given in the time period  
18 specified by the requal program.

19 A (Witness Hinckley) Prior to leaving the site,  
20 these oral exams were given to those individuals.

21 Q Is the problem that the exam was not given when  
22 it should have been, or is the problem that at the time  
23 you had been there it had not been given at all?

24 A The problem was that the exam had not been given  
25 within the time frame that the requal training program

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1 requires.

2 Q But it had been given?

3 A It had not -- well, at the time that we were there,  
4 apparently there were several operators who had not had  
5 their oral exam within the required time frame.

6 Before we left the site, it was my understanding  
7 that those exams were given.

8 Q How much of a time lag are we talking about? How  
9 far beyond the requisite time -- how much time had passed  
10 beyond the deadline, if you understand --

11 A We have not really gotten together and gone over  
12 all of these notes and gotten a draft report out. The notes  
13 that I got from that inspector did not specify the time --  
14 the time frame.

15 A (Witness Gagliardo) I do not recall. The notes  
16 we have from him did not indicate that. I do not recall  
17 him indicating that at the exit interview.

18 A (Witness Hinckley) Our inspection report would  
19 indicate that, because I am sure he has that information.

20 Q Do you know whether if it had been a matter of a  
21 day or two that you would have considered that significant  
22 enough to include in your report?

23 A (Witness Gagliardo) No. We routinely, in our  
24 program, will allow a licensee on the order of plus or  
25 minus 25 percent of the time period specified within his

1 program requirements.

2 So, if it were an annual one, for example, he  
3 might be a couple of months late, and would not present a  
4 problem.

5 A (Witness Hinckley) Here, again, I think the  
6 problem in this area as I recall discussing with him is  
7 not so much that they -- the program was not set up to  
8 give the exam. It was a matter of a training organization  
9 not flagging -- not keeping good enough track of training  
10 status in order to really identify the need for that  
11 examination.

12 My understanding is that they have added additional  
13 people to their training staff in recent months. This should  
14 help alleviate that problem.

15 Q Onpage 4 of your testimony, the very first sentence,  
16 you refer to the Instrument and Control Area. Is that  
17 the control room?

18 A Okay. Where are we at?

19 Q At the very top of page 4.

20 A Okay. What I am making reference to there is  
21 I & C area, maintenance in -- maintaining the instrumentation  
22 of the plant.

23 Q That is not the control room, that is another  
24 part of the plant?

25 A No. The instrument control is making reference to





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1 a group that is usually referred to as the I & C group,  
2 Instrumentation and Control, being that they are involved  
3 with instruments that, you know -- control instruments  
4 and instrumentation.

5 A (Witness Gagliardo) That would include instrumen-  
6 tation in the control room, but it is instrumentation  
7 throughout the plant, not just that strictly confined to  
8 the control room.

9 MR. SHON: Excuse me a moment. What do you mean  
10 by area in this sentence is not the physical area, but the  
11 general field or discipline.

12 WITNESS HINCKLEY: The maintenance area. That  
13 is right. The problem identified here as far as -- many of  
14 the maintenance procedures -- procedures are required to be  
15 controlled and reviewed for maintenance activities related  
16 to safety.

17 Most licensees who write procedures and reference  
18 tech manuals. By referencing a tech manual, that makes that  
19 tech manual part of the procedure. So, it needs to be  
20 controlled. and reviewed as though it were the procedure.

21 In the case of Rancho Seco, many of their tech  
22 manuals which had been referenced in the words of the inspec-  
23 tor were not necessarily controlled so that they knew they  
24 had the most recent revision, or had not been reviewed by  
25 the review committee as part of the maintenance procedure.

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end tP-10

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1 Q Further down on page 4 in the area of Quality  
2 Assurance audits, right in that paragraph appears the  
3 sentence: "Management had decided not to perform four  
4 scheduled and technical specification required audits  
5 because of the refueling outage."

6 A There were --

7 Q Pardon me. Let me ask you a question. First of  
8 all, what level of management are we referring to here?

9 (Pause.)

10 A These -- a request for not performing these  
11 audits, I believe, was made by the director of QA.

12 MRS. BOWERS: Mr. Ellison, I know it's a little  
13 early, but we would like to have a short break now.

14 MR. ELLISON: Fine.

15 (Recess.)

16 MRS. BOWERS: Are you ready, Mr. Ellison?

17 MR. ELLISON: Yes, ma'am.

18 BY MR. ELLISON: (Resuming)

19 Q Mr. Hinckley, just before the break, we were  
20 discussing the middle paragraph on page 4 and the statement  
21 that "Management had decided not to perform" certain QA  
22 audits. You mentioned -- well, I am sorry.

23 A Could you explain the basis for the first part of  
24 that that you determined that management had affirmatively  
25 decided not to perform these audits as opposed to having

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1 overlooked them or forgotten?

2 A (Witness Hinckley) My understanding is that  
3 during the outage, there were several audits that they  
4 requested that they not do. I am not sure of just which  
5 audits they were.

6 Some of these audits, by rights, were not required  
7 to be done, perhaps due to the outage.

8 DR. COLE: I did not hear the last part of the  
9 answer.

10 WITNESS HINCKLEY: Some of these --

11 DR. COLE: You said some of these audits?

12 WITNESS HINCKLEY: My understanding is there were  
13 several audits designated that they would not do during  
14 the outage.

15 Inclusive of this request was these four that were  
16 really required by the technical specifications to be  
17 performed within a specific time frame.

18 Mr. Schweiger indicated when he was approached  
19 concerning this that they -- that that was an oversight when  
20 they made the list up of audits that they did not intend to  
21 leave those audits out -- they did not intend to not to  
22 perform audits that were required by technical specifications.

23 However, the fact that they were put on the request  
24 they were not performed. However, they did perform three of  
25 those audits within the allowable plus or minus 25 percent

bfm7

1 before we left the site. That is my understanding.

2 BY MR. ELLISON: (Resuming)

3 Q Is it your understanding that the reason that  
4 these audits were not performed based on your last answer,  
5 was simply an oversight and a failure to recognize that the  
6 technical specifications required them?

7 A That is how it was explained to me. That it was  
8 an oversight, that they did not intend to not perform tech  
9 spec required audits within that time frame.

10 Q Could you explain the basis for the last sentence  
11 in that same paragraph, the one that begins "The adequacy  
12 of several audits."

13 It goes on it "raised questions as to the ability  
14 of the audit program to serve as an effective independent  
15 review function."

16 A Yes. One of the key instances, I believe I men-  
17 tioned previously concerned the maintenance audits. As  
18 part of the maintenance audit, their audit of actual activi-  
19 ties being performed in the field was not scheduled to  
20 include some important safety component maintenance.

21 They scheduled the audit. The audit fell on a day  
22 they went into the field, and observed whatever maintenance  
23 was going on. In most cases, the activities were minor  
24 maintenance activities.

25 Another case was the audits being performed on non-

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1 licensed training. The procedure for performing non-licen-  
2 sed -- for Rancho Seco training was written in late 1977,  
3 I believe.

4 When they performed the audit in 1978, they did  
5 not complete the audit because they said we are not going  
6 to audit against non-licensed training because the procedure  
7 has not been implemented.

8 A year later, they performed the same audit with  
9 the same conclusion. We are not going to audit non-licen-  
10 sed training because the procedure has not been implemented.  
11 They recongnized the procedure had not been implemented, but  
12 there was no corrective action instituted or taken to deter-  
13 mine why hasn't the procedure been implemented, what has been  
14 done about implementing the procedure.

15 Also, as far as the scope -- let me see where I  
16 am at, here -- the scope and depth. It appeared in many  
17 cases the audits were not really performed against ANSI  
18 standards, guide tech specs or things that were required --  
19 the commitments a licensee had made.

20 One of the reasons for this being that there was  
21 not, to my knowledge, a matrix or a procedure which identified  
22 the licensee's commitments to the various standards.

23 When I say, "identified," they had to be identified  
24 somewhere in the program. If there was not a procedure or  
25 a matrix which readily identified these to the audit organi-

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1 zation, or t had taken the time to identify these things  
2 to audit against.

3 Q The next sentence begins by referring to the  
4 off-site committee. Did you mean -- is that the same thing  
5 as the management safety review committee?

6 A Yes. That is the management safety review com-  
7 mittee.

8 Q Turning to page 5, where you state your conclusions,  
9 the second sentence states: "These weaknesses do not warrant  
10 immediate action on the part of the licensee at this time."

11 Why not?

12 A Well, it was felt that these items that have  
13 been identified will be in our inspection report. Those  
14 items which require response by the licensee, they will  
15 have to repond to them and take proper corrective action.

16 We did not feel immediate action was necessary at  
17 this time.

18 Q Do you expect that when your final inspection  
19 report is completed, that the licensee will be required to  
20 take action in response to it?

21 A Yes. We will issue two inspection reports. One  
22 inspection report will have the enforcement items. That will  
23 be issued through Region V in a similar manner to the regular  
24 inspection reports.

25 The licensee will be required to respond to those



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1 items identified, the region that will follow-up on the  
2 corrective action.

3 Q Am I correct in my understanding that some of the  
4 concerns that you identified were in the nature of regulatory  
5 requirements or tech spec violations and that others were  
6 not?

7 A As I indicated earlier, our inspection in order to  
8 be a uniform inspection for each licensee, we look in areas  
9 where there are requirements for one licensee which may --  
10 another licensee may not have the same requiemene, but we  
11 are looking at the same areas.

12 Those areas where regulatory requirements are  
13 there, and they are non-compliant, then those items will  
14 be identified as non-compliant to the regulatory requirements.

15 Q When you responded a moment ago that you expect  
16 the licensee will be required to respond to the items  
17 identified in your inspection, were you referring only to  
18 the items that are violations of regualtory requirements,  
19 or do you expect the licensee will be required to respond  
20 to those items that concerned you, but were not regulatory  
21 requirements.

22 A He is only going to be required to respond to those  
23 that are regulatory requirements, or commitments.

24 Q In looking at the very last sentence of your  
25 testimony, in the last part of that sentence, you state that

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1 the licensee will be required -- "we expect that they will  
2 determine if appropriate action to resolve these concerns  
3 would enhance the continued safe operation of the Rancho  
4 Seco facility."

5 Is it your expectation that whether any action is  
6 appropriate, with respect to those concerns will be left to  
7 the discretion of the licensee?

8 A I don't really know that I follow your question.

9 Q The last part of that sentence that I read suggests  
10 to me that the response that you expect from the licensee  
11 will be for the licensee to determine whether any action  
12 is necessary.

13 I distinguish that in my mind from you telling  
14 them to do something.

15 A The item -- those requirements -- those things  
16 that are regulatory requirements which we say they are in  
17 non-compliance with, they will be identified as non-complian-  
18 ces.

19 The licensee, then, in response to that, he can  
20 agree without any determinations that they are non-complian-  
21 ces and say what he is going to do to correct the problem  
22 and keep it from happening again.

23 If he should take issues with one of those cases,  
24 it is his prerogative to state that, you know, he does not  
25 feel it is a non-compliance. That is a case where we

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1 correspond back to him and tell him -- we either -- if he  
2 brought forth some new information that makes it -- so, it  
3 is not a non-compliance, then we would have to agree with  
4 him.

5           However, if we do not agree with him, why, we will  
6 say his answer is not acceptable.

7           Q     Mr. Gagliardo, let me address this to --

8           A     (Witness Gagliardo) I could add something to  
9 that. As Darrell indicated, we have two reports that will  
10 be issued as a result of this inspection. The first  
11 addresses what we call enforcement findings, which are  
12 non-compliance against regulatory requirements deviations  
13 against the licensee's commitments to various codes and  
14 standards and regulatory guides.

15           Any unresonved items which willsubsequently be  
16 determined as to whether they are acceptable or constitute  
17 non-compliance for deviation.

18           Those items of non-compliance or deviations that  
19 are identified in that report, the licensee will be requested  
20 to respond to and take corrective action or to indicate  
21 the corrective actions he will take.

22           The second report is an appraisal report which  
23 contains what we term as observations, which are our perceived  
24 strangths and weaknesses of the licensee's management control  
25 system.

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1 We ask the licensee in those reports to review  
2 those observations, especially those we classify as  
3 weaknesses to determine if corrective action is appropriate  
4 to enhance continued safe operation and that is what we  
5 are referencing in the latter paragraph that you were  
6 referring to.

7 Q With respect --

8 A They will not be required to do that, but we  
9 ask them if they will.

10 Q With respect to the items that will be set forth  
11 in the first report?

12 A Yes.

13 Q How is that report and the review that led to it  
14 with respect to those items different than what Region V  
15 will do in their inspection function?

16 A It will look essentially exactly like a Region V  
17 report. The only difference is is that the report is a  
18 report of the findings by the Performance Appraisal team.  
19 The Performance Appraisal team will sign the report and it  
20 will be reviewed by the Performance Appraisal branch manage-  
21 ment, then transmitted to Region V for issuance to the  
22 licensee.

23 So, the cover letter, the transmittal letter will  
24 be signed by Region V management, but the form and format  
25 of the report will look no different than that from a

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routine Region V inspection effort.

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Q In your inspection, did you identify a number of regulatory requirements, violations that fall outside of the normal inspection program of Region V, or were they -- in contrasting that with the situation where in your inspection you uncovered violations that would be ordinarily inspected for by Region V?

A We really had not sat down to look at the indications of the findings as to whether these are covered by the inspection program that is implemented by the regional offices. This is part of the effort that the Performance Appraisal Branch does, after they have submitted their inspection reports to the licensee, but we have not done that at this stage.

Q Referring back to Page 2 of your testimony, the paragraph above Performance Appraisal Branch Concerns, there appears, if I can characterize it as such, a generic statement about the meaning of your findings, and you say that even poor management controls don't necessarily indicate poor management because of the quality of the people that might be involved.

A That is correct.

Q Did you do any evaluation of the question of the quality of the management personnel at SMUD?

A No, our inspection program does not call for us to make an evaluation of an individual's competence. We,



1 too, look at the qualifications of the individual, the  
2 qualifications and the training that he has received, to  
3 make a judgment about whether we feel that he is qualified  
4 or trained for that position, but we do not make a judgment  
5 about the individual's competence.

6 Ours is primarily pointed at the licensee's  
7 management control system.

8 Q Did you reach any conclusions about whether SMUD  
9 has a strong, well-qualified, and experienced management  
10 team?

11 A No.

12 MR. ELLISON: That is all I have.

13 MRS. BOWERS: Mr. Black, do you want the Board to  
14 go ahead with questions?

15 MR. BLACK: Yes, Mrs. Bowers.

16 BOARD EXAMINATION

17 BY DR. COLE:

18 Q Just one or two questions, gentlemen.

19 With respect to the method of conducting the  
20 performance appraisal in general, did you advise the licensee  
21 that a group was coming beforehand?

22 A (Witness Hinckley) Yes, they knew we were coming.  
23 Yes.

24 Q Did they know what you would be looking for or at?

25 A Jim could address that.



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1 A (Witness Gagliardo) Our policy is to communicate  
2 to the licensee several weeks before our planned inspection  
3 the fact that we are going to be doing an inspection to  
4 provide the licensee with a copy of the plan, a generalized  
5 plan for our inspection. In other words, our inspection  
6 plan indicates the areas that we are going to look at, the  
7 functional areas, and what we are going to be looking for,  
8 the five features of a management control system that I  
9 discussed earlier. And we then identified to the licensee,  
10 the management people and the staff, that we wish to  
11 interview, and ask them to schedule interviews for the team  
12 members with those people.


13 So, the licensee has prior notification of what  
14 we are going to do, the general scope of our inspection.

15 Q So they were aware of the eleven functional areas  
16 in which you were interested?

17 A Yes.

18 Q All right, sir.

19 Now, with respect to the deficiencies that you  
20 found, were any of the deficiencies which you found in  
21 your appraisal sufficiently important to cast doubt upon  
22 the ability of SMUD to safely operate Rancho Seco?



23 A (Witness Hinckley) I would say that the weaknesses  
24 were identified. However, from our conclusion statement here,  
25 we did not feel that these weaknesses were of a magnitude

1 to require immediate corrective action in these areas, so I  
2 would have to say that we did not --

3 MR. BAXTER: I cannot hear you, Mr. Hinkley. I  
4 am sorry.

5 WITNESS HINCKLEY: I would say no. The results of  
6 the inspection as stated in our conclusions, we did not see  
7 the need for any immediate corrective action. They were not  
8 of that significance.

9 DR. COLE: Thank you, sir. I have no further  
10 questions.

11 BY MRS. BOWERS:

12 Q I wanted to ask what kind of a computer program  
13 situation exists at SMUD or Rancho Seco. It seems some of  
14 the things you have talked about here in the area of  
15 weakness, flagging for when somebody is due for this or  
16 other matters, would be handled today on a computer?

17 A I think one of the things SMUD is looking into is  
18 putting their training records on computer. I have seen  
19 this in a lot of reports in their response to some of the  
20 findings about their own organization, identifying the  
21 problems they have with training records. Their response has  
22 been that they are looking into a computerized system. They  
23 do not have one such as I am aware of at this time in that  
24 area.

25 They do track some of their non-conformances, and



1 I believe their commitment is on some sort of informal  
2 computer print-out.

3 Q What about Arkansas? Have you been there in your  
4 program?

5 A (Witness Gagliardo) Yes, ma'am. We have. We  
6 conducted a management appraisal inspection at Arkansas in  
7 August of last year.

8 BY MR. SHON:

9 Q Your team and its work takes me back some time.  
10 I chaired a very similar team to look at the management  
11 safety control system for AEC back when there was an AEC.  
12 One of the things we were very interested in, and I think  
13 is fundamental to reactor safety, is what we call configura-  
14 tion control, and that seems to be something that is very  
15 much impinged upon by your section on Page 3 of your  
16 testimony on design change and modifications.

17 The question of, how do you know that this is the  
18 same reactor as it was the last time you started it up. I  
19 am a little disturbed by the fact that you say first that if  
20 the first level of review determines that this is not -- does  
21 not involve 10 CFR 50.59 requirements, that settles it.  
22 Nobody has to carry the review of the change any further.

23 And I am further disturbed by the next sentence,  
24 which is a little unclear. The next sentence says, "This  
25 practice bypassed the review by the Plant Safety Committee

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(a technical specification requirement)." I am not sure whether you meant the bypassing of this review was a technical specification requirement or that they were bypassing a technical specification requirement. Is it the latter?

A (Witness Gagliardo) Yes, that is correct. That mechanism bypasses a technical specification requirement.



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1 Q Doesn't this seem something that should be  
2 corrected fairly soon; the fact that changes can apparently  
3 be made to the physical plant without actually going  
4 through the management review specified by Technical  
5 Specifications?

6 A Yes, this was one of the original concerns and, I  
7 guess, one of the principal concerns of the Performance  
8 Appraisal Branch, in that they had this mechanism for the  
9 review of design changes. We identified that to our manage-  
10 ment and to Region V management. Region V immediately sent  
11 a team of I believe it was three inspectors to review some  
12 176 design changes which had been implemented by that  
13 technique to determine if there were a safety issue or an  
14 unreviewed safety question which had, if you wish, fallen  
15 through the crack, and had determined that there was no  
16 safety issue in that.

17 Our next concern then, satisfied that there was  
18 nothing that was in existence now a safety issue, was from  
19 now on that the licensee's program would include this, and  
20 an interpretation has been given by our management at head-  
21 quarters and that was communicated to the licensee that this  
22 is the interpretation of the Technical Specification require-  
23 ment, and the requirements that the licensee will be inspected  
24 against in the future.

25 Q I take it then that this is one of the kind of



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1 instances where strong lower-level management has managed  
2 to keep them from making any mistakes despite --

3 A That is precisely correct. As we point out in  
4 that paragraph on page 2, here we had a management control  
5 system that we had problems with that we felt was a signifi-  
6 cant weakness. But the very fact that they had apparently a  
7 strong individual who was looking at those design changes  
8 prevented a safety issue from going by without the proper  
9 review and approvals.

10 MR.SHON: Thank you, I have no further questions.

11 MRS. BOWERS: Mr. Black?

12 REDIRECT EXAMINATION

13 BY MR. BLACK:

14 Q In that same line, when you looked at this did  
15 you look to see whether the Supervisor of Engineering and QA  
16 in fact made any wrong determinations with regard to 10 CFR  
17 5059?

18 A (Witness Hinckley) I think that's what the review  
19 of the -- if I understand your question right, I think that's  
20 what the review that was performed by Region V inspectors  
21 and also our inspector looked at -- some of these modifications  
22 that had been identified as not being a 5059 issue, and they  
23 did not find any that did not fall into that category.

24 Q Going back to page 3 of your testimony, with respect  
25 to the training aspect, you indicate in the first sentence



1 there that the training requirements for non-licensed  
2 personnel were not fully implemented. Is it correct to say  
3 that when you say non-licensed personnel that this would go  
4 beyond those non-licensed personnel that would be under the  
5 control and supervision of the Operations Supervisor, and  
6 would include all personnel such as maintenance, engineering  
7 type functions?

8 A Yes. And as a matter of fact, that's primarily  
9 the areas which was looked at; those areas of maintenance  
10 and the technical staff engineers.

11 Q Did you look at any of the training requirements  
12 or procedures for those personnel that would be classified  
13 as plant helpers, auxiliary operators and plant equipment  
14 operators?

15 A In the individual we looked at the program for  
16 licensed operators, we looked to some extent into those who  
17 were non-licensed on the operating crew and indicated that  
18 they were doing work as required but that there were not some  
19 well-defined requirements established for them.

20 Q But in the context of this statement here when you  
21 say non-licensed personnel training requirements had not  
22 been fully implemented, is it the thrust of your testimony  
23 that that did not include those non-licensed personnel that  
24 were on the operating crews?

25 A That is correct.

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1 MR. BLACK: I have no further questions.

2 MRS. BOWERS: Mr. Baxter?

3 MR. BAXTER: Just one moment, please.

4 (Short pause.)

5 RE-CROSS EXAMINATION

6 BY MR. BAXTER:

7 Q Mr. Hinckley, you made reference earlier in Mr.

8 Ellison's examination to a problem with the timeliness of

9 making operators aware of modifications at Rancho Seco. Did

10 this item fall within the category of an observation, as you

11 defined it in your testimony?

12 A (Witness Hinckley) That is an observation, yes.

13 Q Mr. Gagliardo, you testified that one of the

14 things that gave the Team's efforts some national uniformity

15 was the checklist that you'd developed before you started

16 the program. Does the checklist include acceptance criteria

17 by which you judge the adequacy of the items, or is it more

18 in the nature of a list of subjects and general principles

19 which the inspector then uses to conduct his inquiry?

20 A (Witness Gagliardo) It's pretty difficult to

21 establish specific criteria to management control system.

22 You can't assign something quantitative to it. But to the

23 extent possible, we put into our checklist what we considered

24 to be an acceptable management system for that particular

25 area. In other words, specifically what we're looking for.

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1 But as far as being able to put quantitative  
2 acceptance criteria, that's very difficult to do in looking  
3 at management systems.

4 Q Have you ever advised operating licensees of what  
5 you consider these acceptable practices to be?

6 A We have not formally communicated those to the  
7 licensees, no.

8 Q When you were describing the control system model  
9 you had developed and you went down the list of five major  
10 things, one of them I believe was reviewing the adequacy of  
11 written programs and procedures, and I thought you mentioned  
12 using regulatory requirements and guidance available.

13 Would these regulatory requirements and available  
14 guidance be any different from those which would be used by  
15 the regional inspectors?

16 A No, not really. But remember, we're looking at  
17 a management system and how the licensee is managing that  
18 area. So in a -- if I were to take an example of the perform-  
19 ance of the committee, regulatory requirements are the  
20 Technical Specifications which establish the things that the  
21 committee is to review.

22 We, in our management appraisal and inspection, are  
23 looking for a program, be it a charter or a set of procedures  
24 or whatever the licensee wishes to call it, written documents,  
25 defining what the committee is to review to satisfy that

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1 Technical Specification requirement. So that is where we  
2 tie it into the Technical Specification requirement, the  
3 program adequacy of adequately covering all of the Technical  
4 Specification requirements or other regulatory requirements.

5 Q We had testimony from the regional inspectors which  
6 I would characterize as saying that Technical Specifications  
7 and other regulatory requirements can be subject to differing  
8 interpretations, depending on the inspector, and therefore,  
9 requirements can subtly change over time depending on  
10 who's doing the inspection. Would you agree with that  
11 observation?

12 A I agree with that. Yes, I agree.

13 MR. BAXTER: I have nothing else.

14 MRS. BOWERS: One thing, Mr. Baxter. Mr. Hinckley  
15 referred to a SMUD employee and a voice coming from Mr.  
16 Rodriguez's direction spelled that name for the record. I  
17 think his position should be identified.

18 MR. BAXTER: Director of Quality Assurance.

19 MRS. BOWERS: And what's the name, again?

20 MR. BAXTER: Schweiger.

21 MRS. BOWERS: Thank you. Mr. Ellison?

22 BY MR. ELLISON:

23 Q I have only one question. I'll address this to you,  
24 Mr. Gagliardo. Did your team essentially focus on the onsite  
25 management of Rancho Seco, or would you characterize it as

1 covering both offsite and onsite management?

2 A (Witness Gagliardo) No, our inspection program  
3 covers not only site management but corporate management,  
4 all the way up to the senior manager who is responsible for  
5 overall operations of that facility.

6 MR. ELLISON: That's all.

7 MR. BLACK: I have nothing further.

8 MRS. BOWERS: The Board has nothing further.

9 Are we correct that there are no more witnesses; this will  
10 close the evidentiary record?

11 MR. LEWIS: May they be excused?

12 MRS. BOWERS: The witnesses are excused.

13 Let me check and see if anybody has any unfinished  
14 business before we adjourn. Mr. Baxter?

15 MR. BAXTER: I have a closing comment whenever  
16 it's appropriate. Is it?

17 DR. COLE: It's getting pretty close.

18 MR. BAXTER: Just one general comment which I don't  
19 think is appropriate for inclusion in my proposed findings  
20 following the hearing here.

21 It's my feeling that we've accumulated a rather  
22 large record, which of course is very beneficial to the Board  
23 in terms of having lots of available information on which to  
24 base its decision. I think one of the disadvantages of it  
25 is that there's a large ahead of us, the Board and the parties,

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1 in sorting it all out. And I, because of the impact that  
2 time has since the Three Mile Accident on any of the statements  
3 and conclusions that have been reached in the documents  
4 that are entered into evidence, I would simply encourage  
5 everyone, including the members of the Board, to give  
6 particular attention in weighing the evidence to the time  
7 which the statements were made, and in ascribing weight to  
8 it, whether they were made by witnesses who were sworn and  
9 testified here and their qualifications.

10 Thank you.

11 MRS. BOWERS: Mr. Ellison?

12 MR. ELLISON: I have nothing further.

13 MR. LEWIS: I want to ask for Board clarification,  
14 I assume that the record is being closed. We have supplied  
15 everything that we identified as having been requested to  
16 do so by the Board, and our understanding is that there is  
17 nothing outstanding that has been requested of us.

18 MRS. BOWERS: As far as we're concerned, it's now  
19 being closed. Now there was this business we were going to  
20 hold it open until the final final came out on 0667. We feel  
21 after giving the parties the opportunity to state their  
22 positions on what evidence was before us in the final  
23 NUREG-0667, that that satisfies our record.

24 MR. ELLISON: I would agree that the record should  
25 be closed at this point, but I would like to clarify one

1 thing. I recall during Mr. Webb's testimony, Mr. Shon, that  
2 you asked him to perform a calculation and I have asked him  
3 to supply it, and for reasons beyond my control, he has not  
4 had the time to do that thus far. I know that we're going  
5 to have it within a week or so, but it was my understanding  
6 that you wanted that not for submission to the record but  
7 just to be served on all the parties. Is that correct?

8 MR. SHON: That's correct. The question was more  
9 or less a background and theoretical one. I think it does  
10 not bear directly on any of the specific issues we're being  
11 asked to decide. I'm not really too worried if we don't get  
12 that right away.

13 MR. ELLISON: Okay. With that understanding, I  
14 don't believe there's anything that we've been asked to  
15 provide to the record that we have not provided, so we  
16 believe it would be appropriate to close it at this time.

17 MRS. BOWERS: Under what form are you proposing  
18 that it become part of the record?

19 MR. SHON: I thought he said he was going to send  
20 something in.

21 MR. ELLISON: We will serve it on the Board and  
22 the parties but it's not to be included as evidence in the  
23 proceeding.

24 MR. SHON: I see, you're making it not a portion --  
25 it would not then be a formal portion of the record. Is

1 that right? I think that's acceptable to me if it's really  
2 not a part of the record.

3 MR. BAXTER: Anything else I would have problems  
4 with as we would need the chance to rebut it or examine it  
5 if it were to be made part of the evidence.

6 MR. SHON: It's probably true that we do not  
7 necessarily have to require you to do that. As I say, I  
8 don't think it contributes substantially to any of the issues  
9 on which we're going to make a decision anyway. If you'd  
10 rather not send it in at all, I think that's all right, too.

11 MR. ELLISON: We'll provide it. I just wanted to  
12 clarify that we're providing it off the record and ensure  
13 that that met your desires.

14 MRS. BOWERS: As you know, all three of us have been  
15 in and out of different proceedings from time to time over a  
16 period of years. We certainly have been impressed and  
17 delighted with the cooperation among parties in this  
18 proceeding in accommodating each other when you had special  
19 scheduling problems for witnesses. And also, attempting to  
20 work out among yourselves some of those differences that  
21 might, in another forum, be thrown at the Board every few  
22 minutes.

23 So we do think, not only because we were concerned  
24 but your cooperation, that we do have a full and complete  
25 record, and so we want to thank you and God speed and good

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trips home.

DR. COLE: And the Board particularly appreciates the help of the California Energy Commission in developing the record.

MRS. BOWERS: Thank you.

(Thereupon, at 2:45 p.m. the hearing in the above-entitled matter was adjourned.)

This is to certify that the attached proceedings before the  
NUCLEAR REGULATORY COMMISSION

in the matter of: SMUD (Rancho Seco)

- Date of Proceeding: 5/14/80

Docket Number: 50-312

Place of Proceeding: Sacramento, CA

were held as herein appears, and that this is the original transcript thereof for the file of the Commission.

Suzanne R. Babineau

Official Reporter (Typed)

*Suzanne R. Babineau*  
Official Reporter (Signature)

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in the matter of: SMUD (Rancho Seco)

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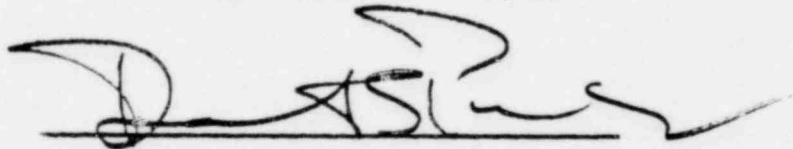
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Official Reporter (Typed)



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