

FACILITY: Diablo Canyon Nuclear Power Plant, Unit 1

DOCKET NO: 50-275

Evaluation of Training and Examination of Shift Advisor candidates at Diablo Canyon Nuclear Power Plant, San Luis Obispo, California during April, 1984.

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SUMMARY:

The purpose of the visit was to evaluate the program of training and certification of the Diablo Canyon Shift Advisors and to assess their ability to provide adequate advise based upon their previous operating experience and their detailed knowledge of the Diablo Canyon Facility.

The licensee's training and certification program for Shift Advisors was adequate and in conformance with general industry criteria for Shift Advisors.

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DETAILS

1. Persons Contacted

- *R. C. Thornberry, Plant Manager
- *W. G. Crockett, Senior Power Production Engineer
- *T. Martin, Training Manager
- *J. Holden, Assistant Training Manager
- *P. F. Sargent, Senior Training Instructor
- T. Mahay, Shift Advisor
- D. Fordham, Shift Advisor
- P. Snavely, Shift Advisor
- B. Lewis, Shift Advisor
- D. Riley, Shift Advisor
- E. Hyde, Shift Advisor
- D. Barkley, Shift Advisor
- J. Maley, Shift Advisor

*Indicates attendance at the exit interviews on April 11 and April 25, 1984.

2. Scope of the Evaluation:

An initial evaluation team composed of three members of the Licensee Qualifications Branch, Division of Human Factors Safety, NRR, and an Operator Licensing Examiner from Region V visited the site during the week of April 9, 1984.

This team reviewed, as part of the evaluation of the licensee's Shift Advisor Program:

- a. The resumes of the Shift Advisors.
- b. The procedure developed by the licensee which describes the duties and responsibilities of the Shift Advisor.
- c. The training program provided to the Shift Advisors by the licensee.
- d. The weekly quizzes and the final written examination administered to the first group of Shift Advisors.
- e. The results of the oral examinations administered to the first group of Shift Advisors.

Additionally, interviews were conducted with the following individuals:

- f. Three members of the facility staff who had administered portions of the Shift Advisor oral examinations.
- g. Selected members of the facility operating staff regarding the Shift Advisor program.
- h. Eight of the nine Shift Advisors.

A followup evaluation team composed of the Chief of the Operator Licensing Branch, Division of Human Factors Safety, NRR; the Chief of the Operator Licensing Section, Region V, and an Operator Licensing Examiner, Region V, visited the facility during the week of April 23, 1984.

This team, as part of the evaluation;

- a. Reviewed the final examination for the second group of Shift Advisors prior to it's administration.
- b. Monitored the licensee's administration of the final examination for the second group of Shift Advisors.
- c. Independently graded two examinations and compared the results to the facility staff's grading of the same examinations.
- d. Audited three oral examinations administered by the facility.

The evaluation team did not make a pass/fail recommendation on any individual candidate but rather evaluated the licensee's program for training and certification of these candidates.

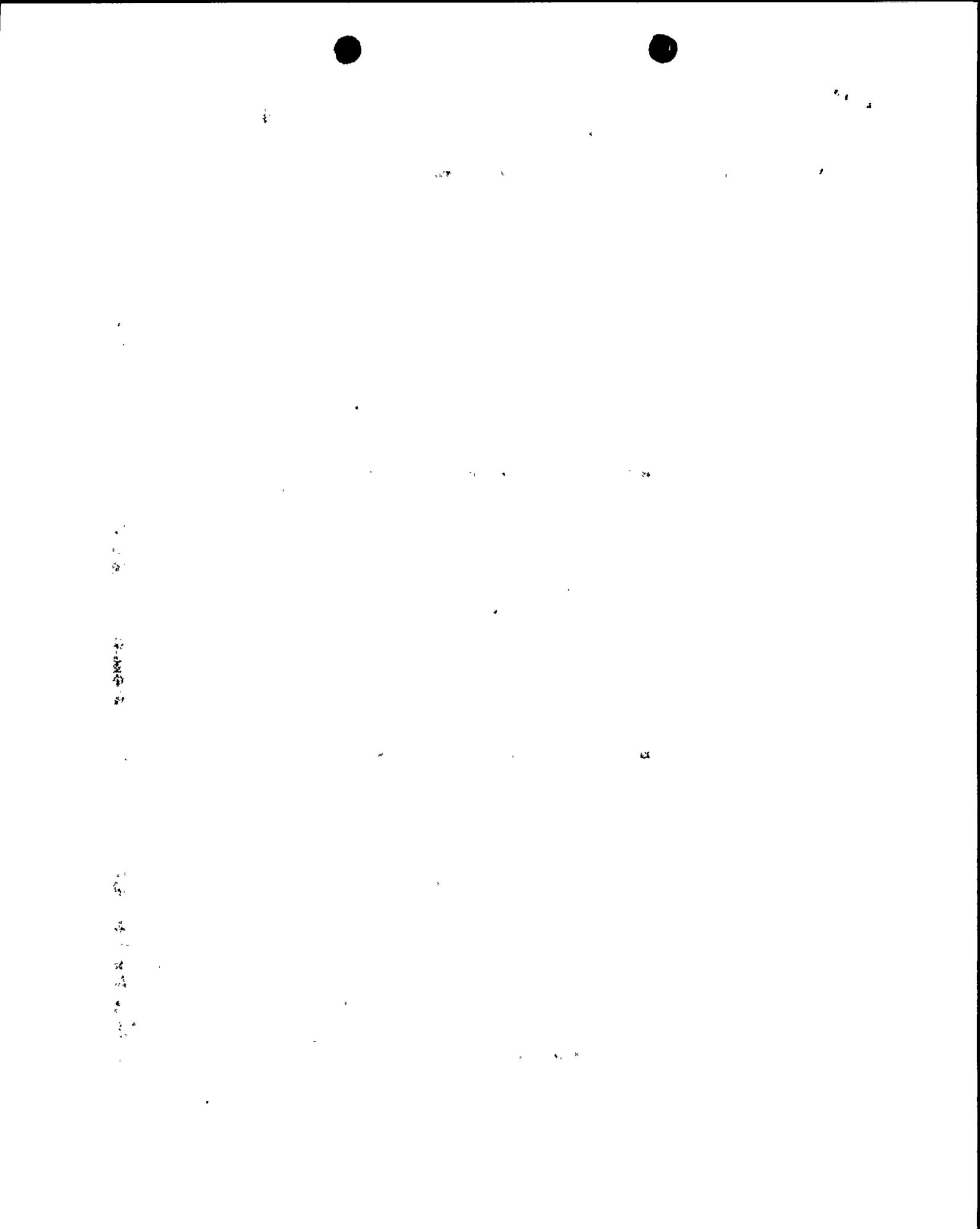
3. Program Status

At the time of the initial NRC team visit, four Shift Advisors had completed the facility training program. Three of these Shift Advisors were working with the plant operating shifts on a 12-hour rotating shift basis. The fourth Shift Advisor was undergoing a week of training at a simulator. Five additional Shift Advisor candidates were in the licensee's training program.

The 12-hour shift schedule of the Shift Advisors contrasted to the five shift rotation scheme of the licensee's operating crews. The licensee intended to assign a Shift Advisor to each of the five shift sections upon the completion of certification of the five Shift Advisors who were in the training program. The Shift Advisor would then rotate as a shift member for both watchstanding and for requalification training. Thus the Shift Advisor would participate in the same requalification program as the shift crews.

4. Shift Advisor Procedure

The procedure governing the duties and responsibilities of the Shift Advisor was TP TO-840, "Responsibilities and Duties of the Shift Advisor." Revision 1 of this procedure, dated April 5, 1984 was in effect at the time of the audit. In accordance with this procedure, the Shift Advisor, while on duty, reports to the Shift Foreman. When not on shift duty, Shift Advisors report to the Senior Power Production Engineer (Operations). The procedure was found to describe the duties of the Shift Advisor adequately and detail his lines of communication with the operating crew.



5. Shift Advisor Qualification

The evaluation team reviewed the resumes of the Shift Advisors. All of the advisors had considerably more power plant and nuclear plant experience than the minimum proposed by the industry. In addition, three of the advisors had previous Navy Nuclear experience and two hold degrees in Engineering. All but one of the advisors had previous licensed operating experience at the RO or SRO level, or both, at commercial nuclear power plants using a Westinghouse Nuclear Steam Supply System similar to that utilized at Diablo Canyon. One advisor candidate had previous licensed experience as an RO at a facility using a Combustion Engineering Nuclear Steam Supply System (also PWR). This advisor was attending simulator training at the Zion simulator to supplement the standard Shift Advisor training.

All Shift Advisors and Shift Advisor candidates were deemed to have adequate commercial nuclear power plant experience to serve as Shift Advisors.

6. Training Program

The training program administered to the Shift Advisor candidates consisted of a four-week course covering plant procedures, technical specifications and plant systems. The training modules are drawn from the regular plant training program and each module is accompanied by a "Need-to-know" description of the learning objectives for that portion of the training. The training program was deemed to be adequate to provide the Shift Advisor with detailed information of systems and procedures specific to the Diablo Canyon facility.

7. Weekly Quizzes and Written Examination

Quizzes were administered at the end of the second and third weeks of the training program. A final written examination, administered at the completion of the four-week course concluded the written evaluation of the Shift Advisor candidates ability.

The evaluation teams reviewed the quizzes and the final examination to determine their adequacy. The written examination given to the first group of Shift Advisors consisted of about 60% questions appropriate to SRO/RO level candidates and 40% appropriate to SRO level candidates. The written examination given to the second group of Shift Advisor Candidates consisted of 23% RO level questions 57% SRO/RO level questions and 20% SRO level questions. On this examination, about 22% of the questions were Technical Specification related and 64% of the questions were specific to the Diablo Canyon facility.

The final written examination administered to the second group of Shift Advisor candidates was monitored by the second NRC evaluation team. At the conclusion of this examination, prior to grading, a copy of the responses of two of the five candidates was provided to the evaluation team for independent grading. After the facility had completed grading of the candidates' response, the resulting grades were compared. The facility grades proved to be within 1% of the grade arrived at by the evaluation team in one case and the same grade was assigned in the other.

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Both evaluation teams concluded that the written examinations were an adequate and appropriate measure of the candidate's knowledge of plant specific material as presented during the training program. Additionally, the recommendations of the training department as to the capability of the candidate seemed appropriate.

Oral Examinations

In addition to the final written examination, each candidate was examined orally by a board of three members of the facility training and operations staff, each of whom holds an SRO license at the Diablo Canyon facility. The Oral Examinations were conducted in the control room and consisted of a walkthrough of systems, procedures, and Technical Specification requirements similar to that given on NRC license examinations.

The first evaluation team interviewed three of the five oral board members for the initial group of Shift Advisor candidates, and reviewed the written records of the oral board examinations given to the first group of Shift advisor candidates. Based upon these interviews and record reviews, the audit team concluded that the oral examination provided a valid check of the Advisor's knowledge of the facility at the SRO level, and the Advisor's duties and responsibilities while on shift.

The second evaluation team observed the oral examinations of three of the five members of the second group of Shift Advisor candidates. The questions used were varied over the two days of the oral examinations and appropriate care was taken to assure that the candidate did not have access to the previously used oral questions. The examinations appeared consistent in scope and depth and provided an adequate evaluation of the candidate's abilities. The evaluation team agreed with the recommendations of the oral board.

9. Interview of Shift Advisors

The initial evaluation team interviewed three of the four Shift Advisors who had been previously certified by the licensee and all five of the Shift Advisor candidates who were in a training status at the time of the initial visit. One Shift Advisor was attending simulator training as noted previously. Each of the Shift Advisors interviewed adequately understood his duties and responsibilities as Shift Advisor and felt that the training that he had received was adequate as a result of intensive training on the facility. The advisors generally felt that the instructors who had conducted the course were very good. Several Advisors mentioned that the training provided, though intense, was among the best that they had received at a facility.

All of the Shift Advisors reported a good working relationship with the licensee's shift crews and expected that this working relationship would improve when the Shift Advisors were assigned to a specific shift crew rather than the overlapping watch organization dictated by the lack of certified Shift Advisors.

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10. Interview of Selected Shift Crew Personnel

Several members of the initial evaluation team interviewed selected shift personnel. Formal training on the role of the Shift Advisors had not been presented to the shift crews; however, the crews were briefed by the Shift Foreman on each crew as to the duties and responsibilities of the Shift Advisor. All shift members had not received or acknowledged the briefing at the time of the initial visit, since all of the crews had not been on duty since the advisors commenced shift operations. This briefing of operating personnel had been completed by the time of the second visit.

11. Conclusions

The evaluation teams concluded that:

- a. All Shift Advisors met the minimum experience recommended by the nuclear industry.
- b. The facility procedures adequately define the Shift Advisor's duties and responsibilities.
- c. The training program, including written and oral examinations was adequate to ensure that the advisors will have sufficient knowledge of the Diablo Canyon procedures, technical specifications, and systems to adequately perform their duties.
- d. The training program adequately covers the areas of responsibility of the Shift Advisor.

12. Recommendations

- a. A formal evaluation system should be established to ensure continuing assessment of Shift Advisor performance.
- b. Shift Advisors should meet the same medical requirements as licensed operators.

13. Exit Interview

At the conclusion of the team evaluations on April 11 and April 25, 1984, the evaluation teams met with the licensee representatives, as detailed in paragraph 1, and discussed the evaluation findings as detailed above.



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ITEMS REQUIRING LICENSEE ACTION PRIOR
TO EXCEEDING 5% POWER

Based on a recent inspection at Diablo Canyon (50-275/84-18; in preparation), the Region V staff identified five issues related to the Post Accident Sampling System (PASS) which should be resolved prior to exceeding 5% power.

- (1) The licensee needs to verify that the sample lines can be purged and samples collected within the three hour time limit at pressures below normal operating pressure.
- (2) The Interim Post Loca Sample System (IPLSS) uses diluter valves which have demonstrated different dilution rates for different pressures and samples. The licensee must determine the dilution rates that occur for different sample locations and pressures.
- (3) The licensee must define what constitutes PASS operability since it is not defined in the Technical Specifications.
- (4) The licensee must evaluate the possible radiation dose to IPLSS operators from a ventilation duct where the IPLSS panel.
- (5) The licensee's PASS which is currently operable includes the IPLSS and a portions of the Sentry System. This equipment does not have the ability to sample for dissolved oxygen, ph, or conductivity, nor can it sample from the pressurizer, letdown line or containment sump under all conditions. This is contrary to SSER 14.

These matters were discussed with Mr. B. Buckley on June 27, 1984 and require resolution prior to operation above 5% power.

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