



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

PH-1-712
JUL 29 1980

MEMORANDUM FOR: James H. Sniezek, Director, Division of Fuel Facilities
and Materials Safety Inspection

FROM: George H. Smith, Chief, FF&MS Branch, RI

SUBJECT: REQUIREMENTS FOR TRAINING, QUALIFICATION, AND RE-TRAINING
OF POWER REACTOR HEALTH PHYSICS TECHNICIANS

This refers to the memo to you, dated July 10, from J. Philip Stohr on the same subject.

We agree with Region II that there is a clear need to take action in this area. Our wording in a recent Order modifying the Oyster Creek license, copy attached, relates to this question.

We suggest the following material, which builds on the ideas set forth in the Region II memo, be incorporated into the Radiation Protection Plan or a Regulatory Guide which could contain or refer to the suggested Power Reactor Health Physics Training Manual.

SUMMARY

The radiation protection organization training and qualification program must be approved by NRC and must consist of the following elements:

1. A set of position descriptions which serve as the focal point and link through which defined authorities and responsibilities are tied to defined training and qualifications.
2. A documented program of classroom training and re-training to be done in accord with a prescribed set of topics. A specified amount of time must be set aside and a documented testing procedure must be used to verify that the trainee has grasped the key points and enough of the related material to be able to perform satisfactorily. Successful completion of this training and re-training and associated examinations must be accomplished in order to become and remain qualified for the position held.
3. A documented program for supervisor examination and verification that the individual understands and can successfully carry out each procedure associated with the position for which he is a candidate.

CONTACT: P. J. Knapp
FTS 488-1291

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4. A documented method through which the Radiation Protection Manager makes a formal determination that an individual has all of the necessary qualifications and training and is appointed to a position.

These areas are expanded on in the following paragraphs.

POSITION DESCRIPTIONS

Positions in the radiation protection organization, including technician positions, should be designated. For each position there should be; a) a statement of the responsibilities and authorities of the position and b) a statement of the training and other qualifications which an individual must have in order to be appointed to the position.

Item five in the Stohr Memo speaks to such a position. This item could be expanded to read;

The phrase "responsible position" in ANSI-N18.1 should be defined in general terms as a position carrying such responsibilities and authorities that the actions of an individual holding it can have a direct affect on the radiological health and safety of plant personnel and the general public or on compliance with technical specifications which control the release of radioactive material to the environment. A list of specific examples of authorities and responsibilities should be published. This list should include:

- 1) Approving Radiation Work Permits.
- 2) Approving Effluent Release Permits.
- 3) Conducting radiation surveys upon which worker protection is based.
- 4) Providing personal radiation protection coverage to workers conducting jobs involving substantial radiation hazards.

QUALIFICATIONS FOR ENTRY

There should be some minimum qualifications for entry to each position. For example a high school diploma with successful completion of Algebra 1, Algebra 2, Trigonometry and one year of science courses or equivalent practical experience should be required for entry to a Junior Technician position. All of the above plus one year of experience in the health physics department at a nuclear power plant or a plant with radiation protection problems of the same type and magnitude should be required for entry to a technician position.

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TRAINING AND RE-TRAINING

The list of topics on the enclosure to the Stohr Memo is excellent. I would suggest the addition of the following topics:

Radiation Work Permit
Nuclear Power Plant System Fundamentals

The topics; PWR/BWR Radiation Sources In-Plant and Power Reactor Rules of Thumb which are presently listed as appendices should be moved to the preceding list of Training Manual Topics.

Each topic should be represented by a précis or course outline which presents sufficient detail to permit an independent determination that the subject is adequately covered. The key concepts (those without which the trainee cannot perform adequate work) under each topic must be identified.

Examinations must be developed and maintained on file which verify the trainee's grasp of each topic. In addition to obtaining a passing grade on an examination, the trainee must successfully answer questions on the examination which demonstrates that he has grasped every key concept.

The licensee's program must specify the topics which will be taught and tested for both initial qualification and re-training. As suggested in paragraph 4 of the Stohr Memo, the licensee's program should specify the number of hours which will be allotted to; 1) initial qualification training and 2) requalification training.

Successful completion of the training and re-training and associated examinations are necessary prerequisites for gaining and holding the position in question.

DEMONSTRATION OF UNDERSTANDING OF AND ABILITY TO PERFORM PROCEDURES

The ability to perform the actual procedures which make up the bulk of the health physics duties, particularly at the technician level, is a major qualification for gaining and holding an appointment to a described position.

The individual's foreman should be required to observe him to perform each procedure successfully and should verify that the individual understands the reasons why the procedure exists and how the procedure accomplishes its purpose.

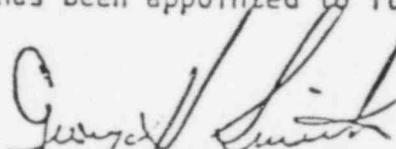
The foreman should then certify his findings by signature entries in the individual's record. In addition, a formal method for assuring that each individual fully understands and can implement each procedure change must be utilized.

JUL 29 1950

The program should identify procedures for which re-certification is necessary as part of the annual re-training.

FORMAL DETERMINATION OF ELIGIBILITY AND APPOINTMENT

The Radiation Protection Manager must verify from the individual's record that; a) he has the necessary qualifications for entry, b) he has successfully completed the classroom training and has passed the required examinations and c) he has successfully demonstrated to the responsible foremen that he understands and can successfully implement every procedure for which he will be responsible. The Radiation Protection Manager should take whatever additional steps he feels are necessary to assure himself that the individual is qualified. Finally, the Radiation Protection Manager should certify in writing that the individual is eligible for the designated position and has been appointed to it.


George H. Smith, Chief
Fuel Facilities and Materials
Safety Branch

Enclosure: As stated

cc:
FF&MS Branch Chiefs
RII
RIII
RIV
RV
T. Murphy

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of
Jersey Central Power and Light Company }
(Oyster Creek Nuclear Generating }
Station, Unit No. 1)

Docket No. 50-219

ORDER MODIFYING LICENSE
EFFECTIVE IMMEDIATELY

I

The Jersey Central Power and Light Company (the "licensee") is the holder of Operating License DPR-16 (the "license") which authorizes operation of the Oyster Creek Nuclear Generating Station at steady state reactor core power levels not in excess of 1930 megawatts thermal (rated power). The license was issued on April 9, 1969. The facility consists of a boiling water moderated and cooled reactor (BWR), located at the licensee's site in Ocean County, New Jersey, nine miles south of Toms River, New Jersey.

II

During an inspection conducted March 18 and 19, 1980 it was determined that one of the major factors contributing to an incident involving a breakdown in radiation protection controls was the use of an unqualified technician to provide radiation protection coverage during the servicing of a heavily contaminated reactor control rod blade handling tool. The incident involved exposure to airborne radioactive material which resulted in intake by one of the workers of approximately 29 percent of the maximum allowable quantity of cobalt 60. A second instance of the use of unqualified personnel was identified during a Health Physics Appraisal inspection conducted May 12-16, 1980. During this inspection, an unqualified contractor technician was observed to allow personnel to exit a work area, used for repair of heavily contaminated control rod drive mechanisms, without performing whole body frisking. This individual was determined to be at times directly responsible for the health and safety of the workers rebuilding the control rod drive mechanisms.

As a result of the first instance, a letter dated April 2, 1980, was sent to the Director, Region I, U.S.N.R.C.. In this letter, the licensee's Manager of Nuclear Generation addressed immediate corrective actions and, among other things, stated,

"Oyster Creek will use Radiation Protection Technicians who meet or exceed ANSI N18.1-1971 in responsible positions. Unqualified technicians acting in less responsible positions will be closely supervised. This Action will be implemented April 7, 1980."

As a result of the second instance and as a result of the normal inspection review process, it was determined on May 16, 1980 that the licensee was utilizing contractor supplied radiation protection technicians in responsible positions who did not meet the requirements of ANSI N18.1-1971. The initial NRC review of resumes, observation of field performance and questioning indicated 4 of 28 contractor technicians designated by the licensee as meeting ANSI N18.1-1971 requirements did not meet these requirements. Of the 4 and including the latter individual discussed above, 2 contractor technicians were determined to have no prior applied nuclear power plant experience. By May 19, 1980, it was determined through further licensee review that an additional 10 of the 28 contractor technicians did not meet the ANSI N18.1 requirements.

The findings of the appraisal suggest that the licensee has not adopted appropriate controls to assure the utilization of only qualified technicians in activities important to the protection of workers.

In view of the significance to safety in assuring the establishment and implementation of appropriate management controls over safety-related activities and the prompt resolution of identified problems, I have determined that the public health, safety and interest require, effective immediately, modification of License No. DPR-16 as stated in Part III of this Order.

III

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's regulations in 10 CFR Parts 2 and 50, License No. DPR-16 is modified by the following addition to Technical Specification 6.3, Facility Staff Qualifications:

6.3.2 Each member of the radiation protection organization for which there is a comparable position described in ANSI N18.1-1971 shall meet or exceed the minimum qualifications specified therein or, in the case of technicians, shall have at least one year's continuous experience in applied radiation protection work in a nuclear facility dealing with radiological problems similar to those encountered in nuclear power stations, preferably in an actual nuclear power station, and shall have been certified by the Supervisor, Radiation Protection, as qualified to perform specified work. This certification must be based on an NRC approved, documented program consisting of classroom training with appropriate examinations and documented positive findings by responsible supervision that the individual has demonstrated his ability to perform each specified procedure and function with an understanding of its basis and purpose. However, the Supervisor, Radiation Protection, shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975.

IV

The licensee, or any other person who has an interest affected by this Order, may, within twenty-five days of the date of this Order, request a hearing. A request for a hearing shall be addressed to the Director, Office of Inspection and Enforcement, U.S.N.R.C., Washington, D.C. 20555. If a hearing is requested by the licensee or an interested person, the Commission will issue an Order designating the time and place of hearing. Such a request for hearing SHALL NOT STAY THE IMMEDIATE EFFECTIVENESS OF THIS ORDER.

V

In the event the licensee or any other interested person requests a hearing as provided above and a hearing is held, the issues to be considered at such a hearing shall be:

- (1) whether the facts set forth in Part II of this Order are correct; and,
- (2) whether this Order should be sustained.

FOR THE NUCLEAR REGULATORY COMMISSION

Victor Stello, Jr.
Director
Office of Inspection and Enforcement

Dated at Bethesda, Maryland
this ____ day of _____, 1980



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

Handwritten:
Doug
C. H. P. 100

Docket Nos.: 50-275
and 50-323

OCT 28 1980

MEMORANDUM FOR: Robert L. Tedesco, Assistant Director
for Licensing, DL
FROM: William E. Kreger, Assistant Director
for Radiation Protection, DSI
SUBJECT: DIABLO CANYON - SUPPLEMENT TO SAFETY EVALUATION REPORT -
REQUESTS FOR ADDITIONAL INFORMATION

PLANT NAME: Diablo Canyon Nuclear Power Station, Units 1 and 2
LICENSING STAGE: OL
DOCKET NUMBERS: 50-275/323
MILESTONE NUMBER/BRANCH CODE: 40/33
RESPONSIBLE BRANCH: LB#3; B.C. Buckley, LPM
DESCRIPTION OF RESPONSE: Supplement to SER/Requests for Additional
Information
REVIEW STATUS: Continuing

Enclosed is a supplement to the Diablo Canyon Safety Evaluation Report. This report summarizes the status of the Three Mile Island Lessons Learned items from NUREG-0578 which are reviewed by the Radiation Protection Section (RPS). The RPS review encompasses: Item II.B.2(2.1.6.b) - access to areas not including vital equipment protection; Item II.B.3(2.1.8.a) - post-accident sampling ALARA considerations not including systems and procedures; Item II.F.1(2.1.8.b) - high range in-containment radiation monitors; Item III.D.3.3(2.1.8.c) - portable radioiodine air sampling and analysis; and Item I.B.1.2 from NUREGS-0660/0694 - radiation protection organization only.

Status of Review

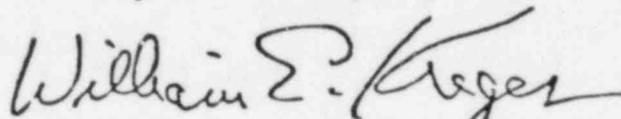
- II.B.2 - Open - Response from applicant expected in November. SSER pending Q331.18 response.
- II.F.1 - Open - Additional information regarding in-situ calibration and calibration frequency requested. SSER pending Q331.24 response.
- III.D.3.3 - Complete - Updated SSER attached.
- I.B.1.2 - Open - Additional information regarding RPT on each shift, total numbers of RPT's, and qualification of RPM backup requested. SSER pending Q331.21, 22, 23 response.
- II.B.3 - Complete - SSER attached.

~~50-275-323~~ 4pp.

R. Tedesco

- 2. -

Staff positions and requests for additional information are additionally included. This evaluation was performed by R. J. Serbu, RPS/RAB.



William E. Kreger, Assistant Director
for Radiation Protection
Division of Systems Integration

Enclosure:
As Stated

cc: w/enclosure
D. Ross
F. Miraglia
B. Buckley
D. Collins
R. Serbu
T. Murphy

RADIATION PROTECTION SECTION/RADIOLOGICAL ASSESSMENT BRANCH

331.0 (471.0) RAB

Q331.21

(I.B.1.2)

(13.1.2)

You have previously committed to add sufficient qualified radiation protection technicians to provide a radiation protection technician for each shift in accordance with NUREG-0654 and NUREG-0731, "Guidelines for Utility Management Structure and Technical Resources." Describe how your radiation protection organization is staffed and structured to provide a qualified radiation protection technician on each shift, with enough radiation protection technicians overall to assure adequate radiation protection coverage for normal operation, maintenance and outages, and emergency situations.

Q331.22

(I.B.1.2)

(13.1.3)

In lieu of providing separate chemistry and radiation protection organizations and in order to provide a qualified backup for the radiation protection manager function in accordance with the positions of Regulatory Guide 8.8, NUREG-0660, and NUREG-0731, "Guidelines for Utility Management Structure and Technical Resources," provide a commitment so that the Senior Radiation Protection Engineer, or his replacement, is qualified in accordance with Regulatory Guide 1.8.

331.23

(I.B.1.2)

Provide a description of how your radiation protection qualification and retraining program for Radiation Protection Technicians meets the criteria of ANSI 18.1.

31.24(RSP)

(I.F.1)

12.1.4

It is our position (Letter, D.G. Eisenhut, September 5, 1980) that calibration of high range containment radiation monitors be performed in-situ using calibrated radiation sources for all decade ranges below 1R/hr. Calibration should be performed each refueling outage (e.g. every 18 months).

- (1) Provide a commitment for in-situ calibration of the high range radiation monitors for decade ranges below 1R/hr, or describe an acceptable alternative.
- (2) Provide a commitment to perform an in-situ calibration on the high range radiation monitors at each refueling outage.

Callaway Q-1

- 331.1 In accordance with the recommendations of Regulatory Guide 1.8, the Assistant Superintendant, Engineer-Radiochemistry, does not qualify as a Radiation Protection Manager (RPM) since he does not presently have the three years of professional experience dealing with radiological problems in applied radiation protection encountered at an operating nuclear power station or equivalent. Therefore, please justify the selection of the individual delineated for this position based on his training and experience as shown in section 13.1.3.2 and specify, as required, how he will achieve the aforementioned experience, prior to the plant being licensed, to qualify as the RPM.
- 331.2 Based on information contained in the draft document "Criteria for Utility Management and Technical Competence" it is our position that the Radiation Protection Group be a separate organization from the Chemistry Group. Your station organization chart (Figure 13.1-3) shows these groups combined. Additionally, in accordance with Regulatory Guide 8.8, it is our position that the Radiation Protection Manager (RPM) should have access to the Assistant Plant Superintendent in radiation protection matters. In matters relating to radiological health and safety, the RPM has direct responsibility to both employees and management that can best be fulfilled if he is independent of station divisions, such as operations, maintenance or technical support, whose prime responsibility is continuity or improvement of station operability. Your FSAR and proposed Technical Specifications should be revised to reflect how your planned radiation protection program reflects this position.