

ENCLOSURE 1

Examination Report No.: 50-528/529/530-OL-91-02

Facility: Palo Verde Nuclear Generating Station

Docket No.: 50-528/529/530

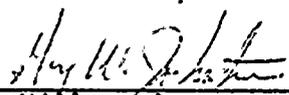
Examinations administered at Palo Verde Nuclear Generating Station,
Wintersburg, Arizona.

Chief Examiner: G. Johnston, Operator Licensing Examiner

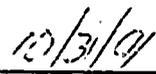
Accompanying
Personnel:

J. Russell, Operator Licensing Examiner
J. Keeton, Operator Licensing Examiner, Region IV
J. Hanek, INEL Contractor

Approved:



Lewis F. Miller, Jr.
Chief, Operations Section


Date Signed

Summary:

Examinations on September 10 - 19, 1991 (Report No: 50-/OL-91-02)

Program Evaluation:

The facility requalification program is satisfactory according to Examiners Standard ES-601, "Administration of NRC Requalification Program Evaluations." 13 Senior Reactor Operators and nine Reactor Operators passed all portions of the requalification examinations.

Safety Significant Issues:

No safety significant issues were identified.

Requalification Program Issues:

The operators had difficulty using the Emergency Operating Procedures (EOPs). The crews during the early stages of events tended to take actions without reference to procedures. The actions occurred before transition to recovery procedures. The operators appeared to act from analysis of the event without reference to the proper recovery procedure. Senior Reactor Operators during emergency event classifications decided the event classification based on a mechanistic use of the event classification procedure. The SROs then upgraded event classification without consideration of the result of the upgrading.

REPORT DETAILS

1. Examiners

G. Johnston, RV (Chief Examiner)
J. Russell, Operator Licensing Examiner
J. Keeton, Operator Licensing Examiner, Region IV
J. Hanek, INEL Contractor

2. Persons Attending the Exit Meeting

NRC:

G. Johnston, Chief Examiner
K. Perkins, Deputy Director, Division of Reactor Safety and Projects
J. Russell, Operator Licensing Examiner
J. Sloan, Resident Inspector.

Arizona Nuclear Power Project

J. Levine, V. P. Nuclear Production
E. Firth, Training Manager
L. Clyde, Unit 3 Operations Manager
R. Rouse, Compliance Supervisor
T. Bradish, Compliance Manager
T. Cannon, Simulator Support Supervisor
R. Flood, Unit 2 Plant Manager
J. Dennis, Operations Standards Manager
L. Florence, Operations Standards Supervisor
J. Scott, Unit 3 Administration Manager
T. Barsuk, Senior Emergency Planning Coordinator
E. Shouse, Senior Test Operator
W. Aho, Operations Training Projects Supervisor
R. Middleton, Unit 2 Operations Supervisor
D. Swan, Unit 3 Shift Supervisor
B. Ballard, Quality Assurance Director
G. Clyde, Nuclear Licensing Senior Engineer

3. Written Examination

The facility prepared written examination material in general met the requirements for administration as described in ES-602, "Requalification Written Examination." The Chief Examiner requested some changes and substitutions, for questions that did not meet ES-601, "Administration of NRC Requalification Program Evaluations." Attachment 1 Table 1 specifies "Items that require only memorization or recall are not permitted on open reference examinations." Some minor changes were necessary because of this requirement.

During the review of the written examination bank the examiners identified questions that did not relate to the proper portion of the exam bank. Typically, a question belonging to the Limits and Controls (Part B) part of the written examination bank would be in the Plant Systems (Part A) part. The licensee representative in charge of the

exam bank material acknowledged the need to review the exam bank. A licensee representative agreed to assure that questions in an inappropriate part of the examination bank are placed in the proper part of the bank.

The following are observations from the reviews of the written examinations:

- ° Question A314 required Senior Reactor Operators to analyze the time limitations during operating mode changes. This was to examine compliance with Technical Specification Limiting Conditions for Operation (LCO). The Senior Operators did not subtract the time allotted directly to enter a mode that they already were in. This was when calculating the maximum time to enter a lower mode. This circumstance shows a generic weakness in the understanding the Senior Reactor Operators have of LCO time restrictions.
- ° The NRC examiners dropped two questions from the examinations. In both cases the questions had at least two responses that were correct. The two responses provided answers that met the gist of the question as it was asked. The two questions dropped were B38 and A383.
- ° One other question was dropped both by the facility evaluators and the NRC examiners. It was difficult to determine whether the response identified as correct was clearly the only correct response.

One operator failed the written examination. The NRC examiners and the facility graders agreed with this result. The facility grading was conservative and did not differ in overall results with the grading of the NRC examiners.

4. Job Performance Measures Examination

The examiners found that the Job Performance Measure (JPMs) provided by the facility were adequate for administration. The facility staff had maintained an addition rate to the bank of JPMs above the recommendations in the Examiners Standards.

The Chief Examiner informed the facility staff that ES-603 "Requalification Walk-Through Examination," C.1.a(4) recommends "Old JPMs should be maintained or modified as appropriate." ES-603 C.1.a(5) recommends "Questions should continue to be developed to be in congruence with the number of knowledge items associated with the particular task, as stated in the JTA or NUREG 1122/1123." This infers that the questions associated with each task need to have all pertinent knowledge items covered. The facility's program did not fully address the intent of these recommendations.

The task performance portion of the JPMs did not clearly identify whether the subject was at the Senior Reactor Operator level or the Reactor Operator level. The questions also did not always clearly match the provided answers. This required the evaluator to ask follow-up questions to expand the response of the examinee to meet the answer supplied. Further, the questions did not consistently require responses that met ES-603 C.1.a(7), which recommends that JPM questions should typically take several sentences to answer.

The Chief Examiner requested the facility staff prepare JPMs specifically for the SROs. Further, the Chief Examiner requested the facility staff prepare JPMs that had alternative success paths. The facility staff prepared these new JPMs such that each SRO participated in the administration of an 'SRO only' JPM.

Two Senior Reactor Operators could not properly classify an emergency event that required operation of the Radiation Monitoring System (RMS) computer terminal. Both SROs showed a lack of understanding of the data recall function of the RMS. The two SROs did not identify the information required to determine an Alert classification.

An NRC examiner failed one operator during the JPM walkthrough examinations. Facility evaluators agreed on that failure, and additionally failed another operator. The facility evaluator's failure of the second operator was appropriately conservative. Although the operator did not miss any critical steps, the operator conducted the steps of the task out of order.

5. Simulator Examinations

The NRC examiners reviewed simulator scenarios supplied by the facility. The scenarios met the minimum requirements as described in ES-604. The facility training staff requested an early meeting with the Chief Examiner to go over their efforts to review the scenario bank. This early effort on the part of the facility resulted in fewer required changes to the scenarios later in the preparation of the examination.

The facility bank contained scenarios that were simplistic in that they did not require significant transitions in the EOPs and did not involve multiple casualties. Some scenarios contained unique lead-in events that could cue the examinees to the major event in a specific scenario. The Chief Examiner encouraged the facility staff to explore modifications to the scenarios to provide novelty such that the operators could not anticipate the events.

The NRC examiners made the following observations during the simulator examinations:

- ° The communications of the crews appeared uncoordinated at times. The NRC examiners saw no clear effort by any of the crews to acknowledge communications. Further, the crews exhibited no consistent formality of communication. The

lack of formal communication did present several crews with problems. This was most apparent between crew members when a failure to relay important information resulted in poor coordination of crew actions.

- The NRC examiners noticed that the operators had some difficulty using the Emergency Operating Procedures (EOPs). The crews tended, during the early stages of events to act before transition to recovery procedures. The crews typically would be in EOP 41EP-1ZZ01, "Emergency Operations," and would be proceeding with the maintenance of safety functions and the diagnostic flow chart. The crews were taking actions not described in 41EP-1ZZ01 and prior to entering a recovery procedure. The examiners told licensee management that this practice was contrary to the Combustion Engineering Owners Group procedure guidelines.
- A crew typically took seven to ten minutes between the point a significant transient requiring entry to the EOPs was identified, and the required transition to the identified recovery procedure. During this period the operators acted from analysis of the event without referring to the proper recovery procedure. The actions the crews took did not complicate the events. However, the examiners told facility management that this practice could lead to the crew taking inappropriate actions based on early event symptoms.
- Senior Reactor Operators classified the emergencies based on a mechanistic use of the event classification procedure. Typically the Senior Operator would identify the event and make the proper check marks for the conditions. Then the operator would project the course of events based on very early symptoms and upgrade the classification. This resulted in two Senior Reactor Operators classifying an "Anticipated Transient Without SCRAM" (ATWS) event as a General Emergency, rather than a Site Area Emergency. The examiners discussed this with licensee management and concluded that the Senior Operators were not trained to evaluate the results of upgrading from a Site Area Emergency to a General Emergency. The examiners took exception to the approach of licensee management that allowed a Senior Reactor Operator to upgrade the classification at his discretion. The concern the examiners conveyed to licensee management was that the Senior Operator had not been given training that would aid his decision making. Therefore, the Senior Reactor Operators had made a discretionary decision that did not weigh the results of the upgrade from a Site Area Emergency to a General Emergency.

The NRC examiners failed one crew on the basis of crew competencies related to crew interactions. Specifically the crew did not coordinate their activities, and did not effectively communicate amongst themselves during an event. The NRC examiners failed two individuals on other crews during the simulator examinations. The facility evaluators did not agree with the NRC examiners on the failure of the crew in question.

The facility evaluators also did not agree with the failure of one of the individuals by the NRC examiners.

The facility evaluators failed four other operators. The facility failures did not rely on the failure to perform a critical task for the determination. The facility evaluators held that performance during the simulator examinations for those individuals warranted failure. The evaluators based the failures on a review of individual competencies. The NRC examiners did not disagree with these determinations and viewed them as appropriately conservative.

6. Requalification Program Evaluation

The NRC examiners reviewed the facility requalification program as follows, according to ES-601, "Administration of NRC Requalification Program Evaluations" C.2.b(1):

- ° The facility grading on all portions of the examination was as conservative as the NRC examiners grading on more than 90 percent of the examination.
- ° There were four individual failures out of 25 examinees on the examination.
- ° One of the six crews failed the simulator portion of the examination.

Further, the NRC examiner found only one of the items of ES-601 C.2.b.(2)(a) to (f) to apply. The Palo Verde operator requalification program was satisfactory according to ES-601, "Administration of NRC Requalification Program Evaluations."

7. Initial License Retakes

The NRC examiners administered simulator examinations to two Reactor Operator candidates for licensing. The NRC granted waivers of earlier passed written examinations and the walkthrough portion of the operating examination to the two candidates. Both candidates passed the simulator portions of the examinations.

8. Exit Meeting

The NRC representatives met with the persons identified in Paragraph 2 on September 20, 1991. The Chief Examiner summarized the preliminary results of the examinations to date. He also stated that the final results would await the final grading of the written examinations by the facility evaluators and the NRC examiners. The Chief Examiner went over the findings identified to date in Paragraphs 3, 4, and 5. The Chief Examiner emphasized that although the preliminary results showed that the requalification program at the facility would meet the satisfactory evaluation criteria of ES-601, the program was marginally successful.

SIMULATION FACILITY REPORT

Facility Licensee: Arizona Nuclear Power Project

Facility Docket No.: 50-528, 529, 530

Operating Tests Administered on: September 10-25, 1991

This form is to be used only to report observations. These observations do not constitute audit or inspection findings and are not, without further verification and review, indicative of noncompliance with 10 CFR 55.45(b). These observations do not affect NRC certification or approval of the simulation facility other than to provide information which may be used in future evaluations. No licensee action is required in response to these observations.

During the conduct of the simulator portion of the operating tests, the following items were observed (if none, so state):

ITEM	DESCRIPTION
VCT Outlet Valve	Inadvertently closed on two occasions with no apparent cause: