

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-285/OL 90-02 Operating License: DPR-40

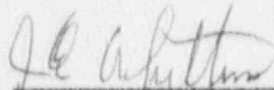
Docket: 50-285

Licensee: Omaha Public Power District (OPPD)
444 South 16th Street Mall
Omaha, Nebraska 68102-2247

Facility Name: Fort Calhoun Station (FCS)

Examination at: Fort Calhoun Station, Fort Calhoun, NE

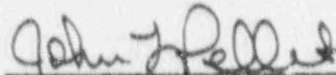
Chief Examiner:



J. E. Whittemore, Examiner
Operator Licensing Section
Division of Reactor Safety

12/3/90
Date

Approved:



J. L. Pellet, Chief
Operator Licensing Section
Division of Reactor Safety

12/3/90
Date

Inspection Summary

NRC Administered Examinations Conducted During the Week of November 12, 1990
(Report 50-285/OL 90-02)

NRC administered written, walk through, and simulator examinations to two reactor operator (RO) and two senior reactor (SRO) applicants. All applicants passed all portions of the examination and have been issued the appropriate licenses.

DETAILS

1. PERSONS EXAMINED

		<u>RO</u>	<u>SRO</u>	<u>Total</u>
Licensee Examinations:	Pass -	2	2	4
	Fail -	0	0	0

2. EXAMINERS

J. E. Whittemore, NRC, Chief Examiner
D. K. Faris, Battelle, Pacific Northwest Laboratories

3. EXAMINATION REL. JRT

Performance results for individual candidates are not included in this report because examination reports are placed in the NRC Public Document Room. Individual performance results are not subject to public disclosure.

3.1 Pre-examination Activities

The facility submitted to the NRC their written examination bank of approximately 550 questions, of which most were objective, multiple choice. The licensee training staff was informed that a maximum of 10 percent of their bank could be used in the final written examination, if the questions discriminated at a high cognitive level of knowledge. Approximately 10 questions were chosen for use in the written examination.

The chief examiner selected 10 Job Performance Measures (JPM's) from the facility's bank of 100 to use for the walk through examinations. The JPM's selected were modified to support current facility design and procedural requirements. Questions were developed and added to comply with the Knowledge and Ability (K/A) sampling requirements of Revision 6 to NUREG 1021, Operating Licensing Examiner Standards.

The chief examiner traveled to the site during the week of October 22, 1990. One of the tasks accomplished during this site visit was the validation of the JPM's to be used during the examination. A subset of this task included the development of simulator initial conditions (IC) sets that could be used to support simulator performance of the JPM's. The second major task accomplished was the licensee technical review of the written examinations, which resulted in finalizing the examinations to the satisfaction of the licensee personnel assigned to review the examination.

3.2 General Comments

Performance on both the written and operating examinations was satisfactory. The written examinations consisted entirely of multiple choice test items worth one point each. Each written examination was worth 100 points after the

initial review. The total number of points on both examinations decreased after final facility licensee review and subsequent incorporation of valid comments into the examinations. The prepared simulator operating examinations were validated on the FCS plant specific simulator prior to administration. The simulator and walk through portions of the examination were administered, evaluated, and graded in strict accordance with NUREG 1021, Revision 6.

3.3 Site Visit Summary

The facility licensee was provided a copy of the examination and answer key for the purpose of commenting on the examination content validity. The facility licensee was informed that examination results could be expected within 30 days, if comments on the written examination could be provided by the end of the examination visit.

An exit meeting was held November 16, 1990, with the following persons in attendance:

NRC

J. L. Pellet

FCS

J. K. Gasper
J. B. Herman
M. P. Lazar
D. J. Matthews
T. L. Patterson

NRC expressed appreciation for the cooperation and professionalism exhibited by facility licensee personnel during the examination process. Those licensee personnel responsible for dosimetry and entrance and exit whole body counting were very cooperative and helpful towards the examiners meeting their prearranged schedule. Also noted was the helpful assistance provided to the examiners by licensee personnel assigned to operate the simulator and act as a stand in operator during simulator portions of the evaluation process. The following items were communicated at the exit meeting to the facility licensee representatives as comments, observations, suggestions, or deficiencies that related to the examinations:

- ° During the dynamic simulator examinations, clear and concise communication among crew members was evident. This comment is made in view of the poor crew communication practices exhibited by licensed operating crews during the FCS EOP inspection conducted in August of 1990.
- ° Senior Reactor Operator candidates demonstrated good ability to recognize procedure transition points. This included transition into and out the EOPs as well as within the EOPs.
- ° Crews took more time than necessary to perform and verify the performance of the Standard Post Trip Actions (SPTAs) of EOP-00, especially with uncomplicated trips.

- ° Crew members displayed hesitancy when locating controls or attempting to verify parameter values on the Safeguards panels. This problem was noted during the dynamic simulator examinations and during the performance of JPM'S.
- ° NRC informed the licensee that numerous communications problems between the licensee and NRC had occurred during preparation for this examination. Both parties agreed to strive for better communications during the preparation phase of future examinations.

3.4 Facility Comments on the Written Examination

In general, editorial comments or changes made as a result of facility reviews prior to the examination, during the examination, or subsequent grading reviews are not addressed by this section. The facility licensee post-examination comments, less the supporting documentation, are included in the report immediately following the master examination key. Those facility licensee post-examination comments which were not incorporated into the answer keys are addressed below.

Question	Facility Comment/NRC Response and Resolution
RO 21 SRO 15	<p>Comment: Distractor "c" should be considered as a correct response because of the confusion that exists about which components govern and/or limit speed.</p> <p>Response: The references cited by the facility licensee clearly distinguish between speed controlling mechanisms such that a choice is clearly available between "governor control" and "no governor control."</p>
RO 65 SRO 55	<p>Comment: OPPD requests deletion of this question on the basis of requiring memorization of EOP-20 Safety Function acceptance criteria.</p> <p>Response: This question requires analysis by the examinee to determine a logical combination of operating safety systems to meet Containment Integrity Acceptance Criteria. Requiring an examinee to demonstrate understanding of the equivalent attributes of safety systems to protect the health and safety of the public is not considered to be procedure memorization. Therefore the question will not be deleted from the SRO examination. Bearing in mind that the major responsibility of the Reactor Operator is to align the safety systems as directed by an SRO licensed individual, the question is deleted from the RO examination.</p>

RO 75 Comment: OPPD requests deletion of this question on the basis of
SRO 69 of various suppositions and assumptions that may be made
 by examinees, and further states that the question
 requires procedure memorization.

Response: Prior to administration of the written examination, examinees are instructed not to make assumptions or impose conditions not presented in the question itself. The question is designed to determine a candidate's comprehensive knowledge of and ability to prioritize preferred methods of controlling core reactivity under emergency conditions regardless of the specific event(s) in progress. It is not considered "procedure memorization" to require the examinee to demonstrate understanding of a procedural objective. Therefore the question will not be deleted from the examinations, but after review of documentation submitted by OPPD, answer "c" will be accepted as an additional correct answer.

RO 77 Comment: OPPD requests that this question be deleted from the
SRO 71 examinations because it requires memorization of the RCP
 NPSH curve of figure 5-2 of the EOPS.

Response: This question requires the examinee to comprehend the relationship between the RCP NPSH and RCS Saturation Curves of figure 5-2. The temperature spread between saturation and RCP NPSH requirements is approximately 50°F at RCS pressures below 1000 psia. If this relationship is understood, it is only necessary to analyze the set of conditions. Steam tables were provided for the purpose of determining that the RCS was only 35°F subcooled.

3.5 Simulation Facility Report

All items in the attached Simulation Facility Report have been noted to the facility simulator instructor personnel.

3.6 Master Examination and Answer Key

A master copy of the FCS license examinations and answer keys are attached. The answer keys reflect the accepted licensee post-examination comments.

SIMULATION FACILITY REPORT

Facility Licensee: OPPD

Facility Docket No. 50-285

Operating Test Administered On: November 14 and 15, 1990

This section of the report is 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 dynamic simulator or JPM performance portions of the operating tests, the following items were observed:

1. The simulator initialized for Initial Condition (IC) 13 with the containment spray valves open and they could not be shut with the simulator controls.
2. During a malfunction simulating a gas decay tank leak, the simulator response was identical for 0.5% and 100% severity.
3. During performance of JPMs the turbine control oil pressure decreased and caused a reactor trip for no apparent reason.
4. During the performance of JPMs the main condenser vacuum oscillated for no apparent reason.
5. The radiological monitoring system does not mimic that actually installed in the plant.
6. The simulator was incapable freezing the output of the Feed Water Regulating Valve controller and thus cause the valve to maintain a constant position. It was only possible to fail the controller in automatic to an extreme position (either high or low).