



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 111 TO PROVISIONAL OPERATING LICENSE NO. DPR-20

CONSUMERS POWER COMPANY

PALISADES PLANT

DOCKET NO. 50-255

INTRODUCTION

By letter dated September 1, 1987, the licensee for the Palisades Plant, Consumers Power Company (CPC), proposed changes in the Technical Specifications related to the use of the containment building crane and the fuel storage building crane for movement of heavy loads. The licensee proposed to eliminate present Technical Specifications 3.13, "Containment Building and Fuel Storage Building Cranes," and 3.21, "Movement of Shielded Shipping Casks in Fuel Handling Areas," in their entirety and to replace these with new Technical Specification 3.21, "Movement of Heavy Loads."

EVALUATION

1. Present Technical Specification 3.13, "Containment Building and Fuel Storage Building Cranes."

This specification, which restricts the use of the overhead cranes in both the containment and fuel storage building, has been eliminated in its entirety. However, the requirements of this specification have been retained in new proposed Technical Specification 3.21 as follows:

- a. Proposed Technical Specification 3.21.1.a

Present Technical Specification 3.13.a requires that the containment polar crane not be used to transport loads over the primary coolant system (PCS) if the temperature of the coolant or steam in the pressurizer exceeds 225°F. Proposed Technical Specification 3.21.1.a does not allow heavy loads over the PCS when the coolant or the steam in the pressurizer exceeds 225°F. Further, the proposed specification is more restrictive since it does not permit any heavy load to be transported over the primary coolant system with the PCS at temperatures over 225°F by any means while the present Specification restricts only the use of the containment polar crane in transporting heavy loads over the PCS under those conditions. Therefore, the NRC staff finds proposed Technical Specification 3.21.1.a to be acceptable.

b. Proposed Specifications 3.21.2.d(1) and 3.21.2.d(2)

Present Technical Specification 3.13.b states:

"The fuel storage building crane shall not be used to move material past the fuel storage pool unless the crane interlocks are operable or they are bypassed and the crane is under administrative control of a supervisor."

Proposed Specification 3.21.2.d(1) does not allow the movement of heavy loads over the 649 foot level of the auxiliary building, i.e. the surface of the floor adjacent to the spent fuel pool, unless the fuel storage building crane interlocks are operable or they are bypassed and the crane is under administrative control of a supervisor. Proposed Specification 3.21.2.d(2) adds to that by requiring that no fuel handling operations be in progress when heavy loads are moved over the auxiliary building 649 foot level in order to focus the operator's attention on cask movement. Therefore, the NRC staff finds proposed Technical Specification 3.21.2.d(1) and 3.21.2.d(2) to be acceptable.

c. Proposed Specifications 3.21.2.a, 3.21.2.b and 3.21.2.f

Present Technical Specification 3.13.c relates to the use of the fuel storage building overhead crane for movement of heavy loads over the spent fuel storage pool. The present specification requires the operation of the fuel storage building ventilation system when the overhead crane is used to move heavy loads over the spent fuel storage pool with irradiated fuel in the pool which has decayed less than 90 days. Proposed Specification 3.21.2.a does not allow movement of heavy loads over fuel stored in the main pool zone. Proposed Specification 3.21.2.b does not allow heavy loads to be moved over allowable areas of the main pool zone unless the charcoal filter of the ventilating systems is in operation and fuel stored in the main pool has decayed for a minimum of 30 days. It further restricts movement of heavy loads over allowable areas of the main pool zone when the charcoal filter is not operating unless the spent fuel in the pool has decayed a minimum of 90 days.

As noted, while these proposed specifications do permit the movement of heavy loads over the spent fuel pool, such movement is limited to those portions of the spent fuel pool which do not contain spent fuel. In addition, the licensee has proposed to add Specification 3.21.2.f which states "Heavy loads shall not be moved unless the potential for a load drop is extremely small as defined by Generic Letter 85-11 or an evaluation in compliance with section 5.1 of NUREG-0612 has been completed." The licensee notes that Generic Letter 85-11 indicates the

potential for a load drop to be extremely small when heavy loads are handled in compliance with the guidelines of Section 5.1.1 of NUREG-0612. These guidelines include, among others, the definition of safe load paths and the development of procedures for moving heavy loads in those paths. The alternative, i.e., an evaluation in compliance with Section 5.1, provides assurance that a heavy load drop will not cause damage which results in release of radioactivity in excess of allowable limits. On the basis of the foregoing, the NRC staff finds proposed Technical Specifications 3.21.2.a, 3.21.2.b, and 3.21.2.f to be acceptable.

2. Present Technical Specification 3.21, "Movement of Shielded Shipping Cask in Fuel Handling Areas."

The licensee proposes to replace existing Technical Specification 3.21 as follows:

a. Proposed Specifications 3.21.1.b, 3.21.2.a, 3.21.2.b, 3.21.2.f

Present Specification 3.21.1.a limits cask movement to areas outside of the periphery of the spent fuel pool and the reactor vessel. In addition, it requires that the vertical clearance between the cask bottom and the operating floor or obstructing structure not exceed six inches. Present Technical Specification 3.21.1.b does not allow movement of the shipping cask closer than about 60 inches from the edge of the main pool, while present Specification 3.21.1.d does not permit movement of the cask within 19 feet of the centerline of the reactor vessel.

The proposed Technical Specifications do not contain specific prohibition to prevent movement of heavy loads closer to the reactor vessel than 19 feet nor to prevent movement of heavy loads over the main spent fuel pool. However, they do contain prohibitions against moving heavy loads in containment (3.21.1.b) or over those portions of the spent fuel pool which do not contain spent fuel (3.21.2.f) "...unless the potential for a load drop is extremely small...or an evaluation in compliance with section 5.1 of NUREG-0612 has been completed." As noted in the previous discussion (see 1.c above), these provisions will reduce the potential for a load drop to acceptably small levels or will demonstrate that acceptable consequences result.

In addition, as noted above, the proposed Technical Specifications do not allow the movement of heavy loads over fuel stored in the main pool zone (proposed Specification 3.21.2.a) and allow such movement over the main pool zone only when sufficient radioactive decay has taken place (proposed Specification 3.21.2.b). The requirement of a maximum of six inches between the floor or obstructions and the cask bottom during cask movement has been incorporated into the plant procedures which are provided in accordance with the guidelines of NUREG-0612. The NRC staff finds this to be an acceptable alternative.

b. Proposed Technical Specification 3.21.2.c

Present Technical Specification 3.21.1.c allows the movement of heavy loads over fuel stored in the north tilt pit zone provided the fuel has decayed a minimum of 22 days when the charcoal filter is operating or a minimum of 77 days when the charcoal filter is not operating. Proposed Technical Specification 3.21.2.c maintains this requirement, and therefore, the NRC staff finds it to be acceptable.

c. Proposed Technical Specification 3.21.2.d(2)

Present Technical Specification 3.21.1.e requires that movement of the shielded shipping cask be made only after all other fuel handling operations have been halted. Proposed Technical Specification 3.21.d.(2) states that no fuel handling operations are to be in progress when heavy loads are moved over the 649 foot level of the auxiliary building. The NRC staff finds this consistent with the previous specification requirements and, therefore, acceptable.

d. Proposed Technical Specification 3.21.2.e

Proposed Specification 3.21.2.e prohibits loads over 25 tons from being moved over the cask laydown area of the main pool fuel zone. The NRC staff finds this restriction acceptable with the additional provision that no loads in excess of 25 tons be carried over the main pool zone until an analysis of the consequences of the effects of a postulated drop of that load is completed, and acceptable results are demonstrated in accordance with the guidelines of Section 5.1 of NUREG-0612. Loads of 25 tons or less are permitted over the allowable areas of the main pool zone since the licensee has conducted an analysis of a postulated drop of a 25-ton cask and demonstrated acceptable consequences. The staff finds proposed Specification 3.21.2.e, together with the licensee's commitment to demonstrate acceptable results of potential drops of heavy loads in excess of 25 tons, to be acceptable as agreed to by the licensee's staff. This provision was added to Specification 3.21.2.e.

3. Present Technical Specification 5.4.2.h

Technical Specification 5.4.2.h specifies that spent fuel shipping casks are not to be handled until the NRC has reviewed and approved the postulated spent fuel cask drop analysis. The licensee has deleted this provision based on the requirements of proposed Specification 3.21.2.c above. The staff, therefore, finds this deletion acceptable.

Based on the above, the NRC staff concludes that proposed Technical Specification 3.21, "Movement of Heavy Loads", is consistent with the guidelines of NUREG-0612 and Generic Letter 85-11 concerning safe handling of heavy loads and is therefore,

acceptable in conjunction with the licensee's commitment to the provision that no loads in excess of 25 tons be moved over the main pool zone until an analysis of a postulated load drop demonstrating acceptable consequences is performed in accordance with the guidelines of Section 5.1 of NUREG-0612.

ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

CONCLUSION

We have concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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