



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

July 12, 1985

Docket No. 50-255  
LS05-85-07-021

Mr. David J. Vandewalle  
Director, Nuclear Licensing  
Consumers Power Company  
1945 West Parnall Road  
Jackson, Michigan 49201

Dear Mr. Vandewalle:

SUBJECT: EXEMPTIONS TO SECTION III.G OF APPENDIX R

Re: Palisades Plant

By letter dated July 16, 1984, you requested eight exemptions from the technical requirements of Section III.G of Appendix R to 10 CFR Part 50 for certain areas outside of containment. By letters dated July 20, 1984, August 10, 1984, October 1, 1984, December 28, 1984 and March 19, 1985 you provided additional information to supplement your exemption requests. Based on meetings with the NRC staff and attendance at the Regional Fire Protection Work Shop you reevaluated your submittals and concluded five of the original eight exemptions were not required. By letter dated June 19, 1985, you withdrew five of the original eight exemptions and provided additional information to supplement two exemptions. In your June 19, 1985 letter, you also requested that we defer our evaluation of your exemption request in the Charging Pump Room pending completion of your analysis of the high pressure safety injection system make-up capability. We will complete our evaluation of the Charging Pump Room exemption request in a separate action.

We have completed our review of your submittals for areas other than the Charging Pump Room. Based on our evaluation and our on-site review, we have concluded that the existing fire protection in the two areas involved, together with the proposed modifications, provide a level of safety equivalent to the technical requirements of Section III.G of Appendix R to 10 CFR Part 50. Therefore, we also conclude that your request for exemptions in the Engineering Safeguards Panel Room and the Corridor between the Charging Pump Room and the 1C Switchgear Room on elevation 590'-0" of the Reactor Building should be granted.

The Commission has issued the enclosed Exemption from technical requirements of Appendix R to 10 CFR Part 50. The bases for these exemptions are contained in the enclosed Safety Evaluation.

Your additional request in your June 19, 1985 letter regarding our review of certain areas of the plant using Appendix R criteria will be addressed separately.

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1/1 Ex-04

Mr. David J. VandeWalle

- 2 -

July 12, 1985

A copy of the Exemption is being forwarded to the Office of the Federal Register for publication.

Sincerely,

**Original signed by:**

John A. Zwolinski, Chief  
Operating Reactors Branch #5  
Division of Licensing

Enclosures:

- 1. Exemption
- 2. Safety Evaluation

cc w/enclosures:  
See next page

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OELD  
*W Shields*  
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*can we beef up "walkdown" results a little?*  
 →  
*Discuss with Shields OK*

Mr. David J. Vandewalle  
Consumers Power Company

Palisades Plant

cc  
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Covert Township  
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Covert, Michigan 49043

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Room 1 - Capitol Building  
Lansing, Michigan 48913

Palisades Plant  
ATTN: Mr. Joseph F. Firlit  
General Manager  
27780 Blue Star Memorial Hwy.  
Covert, Michigan 49043

Resident Inspector  
c/o U.S. NRC  
Palisades Plant  
27782 Blue Star Memorial Hwy.  
Covert, Michigan 49043



III.

By letters dated July 16, 1984, as supplemented by letters dated July 20, 1984, August 10, 1984, October 1, 1984, December 28, 1984, March 19, 1985 and June 19, 1985, the licensee requested exemptions from III.G.3 of Appendix R in the Engineered Safeguards Panel Room and the Corridor between the Charging Pump Room and the 1C Switchgear Room in the Reactor Building elevation 590'-0". The exemptions were requested from providing fixed fire suppression systems in the above areas as required by Section III.G.3 of Appendix R.

The licensee has provided alternative shutdown capability in each area. Fire protection in each area consists of early warning fire detectors, manual hose stations and portable fire extinguishers. The fuel loading (cable insulation) in each area is moderate. The staff finds that there is reasonable assurance that a fire in these areas would be promptly detected and extinguished. The moderate combustible loading in each area ensures that safety-related equipment in adjacent areas will not be threatened before the fire brigade can extinguish the fire. NRR and Region III fire protection engineers recently visited the site to walk down the fire protection modifications made by the licensee to comply with Appendix R and to review the above two areas where exemptions from Appendix R had been requested. Based on the licensee's analysis and the review of the areas at the site the staff concludes that the installation of fixed fire suppression systems would not significantly increase the level of fire protection in the Engineered Safeguards Room or the Corridor between the Charging Pump Room and the 1C Switchgear Room in the Reactor Building elevation 590'-0". Therefore, the requested exemptions should be granted.

IV.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the requested exemptions are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest. Therefore, the Commission hereby grants the following exemptions from the requirements of Section III.G.3 of Appendix R to 10 CFR Part 50:

1. Engineered Safeguards Room to the extent a fixed fire suppression system should be installed in the area.
2. Corridor between the Charging Pump Room and the 1C Switchgear Room in the Reactor Building elevation 590'-0" to the extent a fixed fire suppression system should be installed in the area.

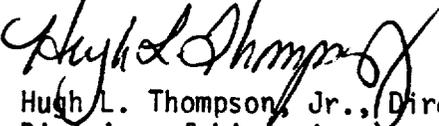
Pursuant to 10 CFR 51.32, the Commission had determined that the granting of these exemptions will have no significant impact on the environment (July 5 , 1985, 50 FR 27708 ).

A copy of the Safety Evaluation dated July 12, 1985, related to this action is available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. and at the local public document room located at the Van Zoeren Library, Hope College, Holland, Michigan 49428. A copy may be obtained upon written request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

This Exemption is effective upon issuance.

Date at Bethesda, Maryland 12th this day of July 1985.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Hugh L. Thompson, Jr., Director  
Division of Licensing  
Office of Nuclear Reactor Regulation



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

ENCLOSURE 2

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATIVE TO APPENDIX R EXEMPTIONS REQUESTED FOR

PALISADES PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

By letter dated July 16, 1984, as amended by letters dated July 20, 1984, August 10, 1984, October 1, 1984, December 28, 1984, March 19, 1985 and June 19, 1985, the Consumers Power Company (the licensee) requested exemptions from Section III.G of Appendix R to 10 CFR Part 50.

Section III.G.2 of Appendix R requires that one train of cables and equipment necessary to achieve and maintain safe shutdown be maintained free of fire damage by one of the following means:

- a. Separation of cables and equipment and associated nonsafety circuits of redundant trains by a fire barrier having a 3-hour rating. Structural steel forming a part of or supporting such fire barriers shall be protected to provide fire resistance equivalent to that required of the barrier.
- b. Separation of cables and equipment and associated nonsafety circuits of redundant trains by a horizontal distance of more than 20 feet with no intervening combustibles or fire hazards. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.
- c. Enclosure of cable and equipment and associated nonsafety circuits of one redundant train in a fire barrier having a 1-hour rating. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.

If the above conditions are not met, Section III.G.3 requires that there be an alternative shutdown capability independent of the fire area of concern. It also requires that a fixed suppression system be installed in the fire area of concern if it contains a large concentration of cable or other combustibles. These alternative requirements are not deemed to be equivalent; however, they provide equivalent protection for those configurations in which they are accepted.

Because it is not possible to predict the specific conditions under which fires may occur and propagate, the design-basis protective features rather than the design-basis fire are specified in the rule. Plant-specific features may require protection different from the measures specific in Section III.G. In such a case, the licensee must demonstrate, by means of

a detailed fire hazards analysis, that existing protection or existing protection in conjunction with proposed modifications will provide a level of safety equivalent to the technical requirements of Section III.G of Appendix R.

In summary, Section III.G is related to fire protection features for ensuring that systems and associated circuits used to achieve and maintain safe shutdown are free of damage. Either fire protection configurations must meet the specific requirements of Section III.G or an alternative fire protection configuration must be justified by a fire hazard analysis. Generally, the staff will accept an alternative fire protection configuration if:

1. The alternative ensures that one train of equipment necessary to achieve hot shutdown from either the control room or emergency control stations is free of fire damage.
  2. The alternative ensures that fire damage to at least one train of equipment necessary to achieve cold shutdown is limited so that it can be repaired within a reasonable time (minor repairs using components stored on the site).
  3. Fire-retardant coatings are not used as fire barriers.
  4. Modifications required to meet Section III.G would not enhance fire protection safety levels above that provided by either existing or proposed alternatives.
  5. Modifications required to meet Section III.G would be detrimental to overall facility safety.
- 2.0 ENGINEERED SAFEGUARDS ROOM/CORRIDOR BETWEEN THE CHARGING PUMP ROOM AND THE IC SWITCHGEAR ROOM ELEVATION 590'-0" OF THE REACTOR BUILDING

2.1 Exemption Requested

Exemptions were requested from Section III.G.3 to the extent it requires a fixed fire suppression system be installed in areas for which alternate shutdown capability is provided.

2.2 Discussion

a. Engineered Safeguards Room

The Engineered Safeguards Room is located on elevation 590'-0" of the Reactor Building. The room is separated from other plant areas by 3-hour fire rated barriers. The doors leading into the room are water tight doors. The water tight doors were reviewed and approved by the staff in the Appendix A to BTP APCS 9.5-1 SER issued September 1, 1978. The combustible loading in the area is moderate. A fire detection system and manual suppression equipment are provided in the area. There is alternative shutdown capability, independent of this area.

- b. Corridor between the Charging Pump Room and the 1C Switchgear Room  
Reactor Building Elevation 590'-0"

The combustible loading in the area is moderate. A fire detection system and manual suppression equipment are provided in the area. There is alternative shutdown capability, independent of this area.

### 2.3 Evaluation

The fire protection in these areas does not comply with the technical requirements of Section III.G.3 of Appendix P because fixed fire suppression systems have not been installed in the areas.

There is reasonable assurance that a fire in these areas would be promptly detected and extinguished. The moderate combustible loading in these areas ensures that safety-related equipment in adjacent areas will not be threatened. NRR and Region III fire protection engineers recently visited the site to walk down the fire protection modifications made by the licensee to comply with Appendix R and to review the above two areas where exemptions from Appendix R had been requested. Based on the licensee's analysis and the review of the areas at the site the staff concludes that the installation of a fixed fire suppression system would not significantly increase the level of fire protection in these areas.

### 2.4 Conclusion

Based on the above evaluation, the staff finds that the existing fire protection combined with the alternate shutdown capability in the Engineered Safeguards Room and the Corridor between the Charging Pump Room and the 1C Switchgear Room in the Reactor Building elevation 590'-0" provides a level of protection equivalent to the technical requirements of Section III.G.3 of Appendix R. Therefore, the exemption should be granted.

### 3.0 ACKNOWLEDGEMENT

This safety evaluation was prepared by John Stang.

Dated: July 12, 1985