

ASME Code. Since the Vermont Yankee RPV is currently limited by Plate No. I-14 (material heat 76492), use of Code Case N-588 does not provide benefit for VYNPC. Therefore, on February 2, 2001, as part of the request for additional information (RAI) for Vermont Yankee's proposed P-T limits, the staff requested that VYNPC withdraw its exemption request to apply Code Case N-588 to the P-T limit calculations or provide additional information that demonstrates a reduction in unnecessary burden. In a letter dated February 13, 2001, and as confirmed in VYNPC's RAI response dated February 23, 2001, VYNPC withdrew the Code Case N-588 exemption request.

Code Case N-640 (formerly Code Case N-626)

Code Case N-640 permits application of the lower bound static initiation fracture toughness value equation (K_{Ic} equation) as the basis for establishing the curves in lieu of using the lower bound crack arrest fracture toughness value equation (*i.e.*, the K_{Ia} equation, which is based on conditions needed to arrest a dynamically propagating crack, and which is the method invoked by appendix G to Section XI of the ASME Code). Use of the K_{Ic} equation in determining the lower bound fracture toughness in the development of the P-T operating limits curve is more technically correct than the use of the K_{Ia} equation since the rate of loading during a heatup or cooldown is slow and is more representative of a static condition than a dynamic condition. The K_{Ic} equation appropriately implements the use of the static initiation fracture toughness behavior to evaluate the controlled heatup and cooldown process of a reactor vessel. However, since use of Code Case N-640 constitutes an alternative to the requirements of appendix G, licensees need staff approval to apply the Code Case methods to the P-T limit calculations.

3.0 Discussion

Pursuant to 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR part 50, when (1) The exemptions are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security; and (2) when special circumstances are present. Special circumstances are present whenever, according to 10 CFR 50.12 (a)(2)(ii), "Application of the regulation in the particular circumstances would not

serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule."

Code Case N-640 (formerly Code Case N-626)

VYNPC has requested, pursuant to 10 CFR 50.60(b), an exemption to use ASME Code Case N-640 (previously designated as Code Case N-626) as the basis for establishing the P-T limit curves. Appendix G of 10 CFR part 50 has required use of the initial conservatism of the K_{Ia} equation since 1974 when the equation was codified. This initial conservatism was necessary due to the limited knowledge of RPV materials. Since 1974, the industry has gained additional knowledge about RPV materials, which demonstrates that the lower bound on fracture toughness provided by the K_{Ic} equation is well beyond the margin of safety required to protect the public health and safety from potential RPV failure. In addition, the RPV P-T operating window is defined by the P-T operating and test limit curves developed in accordance with the ASME Code, Section XI, appendix G, procedure.

The ASME Working Group on Operating Plant Criteria (WGOPC) has concluded that application of Code Case N-640 to plant P-T limits is still sufficient to ensure the structural integrity of RPVs during plant operations. The staff has concurred with ASME's determination. The staff had concluded that application of Code Case N-640 would not significantly reduce the safety margins required by 10 CFR part 50, appendix G. The staff also concluded that relaxation of the requirements of appendix G to the Code by application of Code Case N-640 is acceptable and would maintain, pursuant to 10 CFR 50.12(a)(2)(ii), the underlying purpose of the NRC regulations to ensure an acceptable margin of safety for the Vermont Yankee RPV and reactor coolant pressure boundary (RCPB). Therefore, the staff concludes that Code Case N-640 is acceptable for application to the Vermont Yankee P-T limits.

The staff has determined that VYNPC has provided sufficient technical bases for using the methods of Code Case N-640 for the calculation of the P-T limits for the Vermont Yankee RCPB. The staff has also determined that application of Code Case N-640 to the P-T limit calculations will continue to serve the purpose in 10 CFR part 50, appendix G, for protecting the structural integrity of the Vermont Yankee RPV and RCPB. In this case, since strict compliance with the requirements of 10 CFR part 50, appendix G, is not necessary to serve

the underlying purpose of the regulation, the staff concludes that application of Code Case N-640 to the P-T limit calculations meets the special circumstance provisions stated in 10 CFR 50.12(a)(2)(ii), for granting this exemption to the regulation.

4.0 Conclusion

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12(a), the exemption is authorized by law, will not endanger life or property or common defense and security, and is, otherwise, in the public interest. Also, special circumstances are present. Therefore, the Commission hereby grants VYNPC an exemption from the requirements of 10 CFR part 50, appendix G, for Vermont Yankee.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment (66 FR 18514).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 16th day of April 2001.

For the Nuclear Regulatory Commission.

John A. Zwolinski,

Director, Division of Licensing Project Management, Office of Nuclear Reactor Regulation.

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NUCLEAR REGULATORY COMMISSION

Federal Emergency Management Agency

[Docket 30-7130]

Issuance of Environmental Assessment and Finding of No Significant Impact Regarding the Proposed Transportation Exemption

The U.S. Nuclear Regulatory Commission (NRC or Commission) is considering issuance of a one-time exemption, pursuant to 10 CFR 71.8, from the provisions of 10 CFR 71.73(c)(1) and (3) to the Federal Emergency Management Agency (FEMA). The requested exemption would allow FEMA to transport ten CDV-794 calibrators containing up to 85 curies of cesium-137 in packages that otherwise meet the performance requirements for a Type B transportation package pursuant to 10 CFR part 71 as exempted. Nine calibrators will be shipped to a central location so that disassembly of the calibrators and disposal of the

radioactive material can be done in a controlled environment to reduce worker radiation exposures. The tenth calibrator will be shipped 25 miles within the State of Hawaii, to another NRC licensee for use under its radiation protection program.

An NRC categorical exclusion for package approvals in 10 CFR 51.22(c)(13) does not apply to packaging authorized under an exemption. Consequently, an environmental assessment of the proposed exemption was prepared. The Department of Transportation (DOT) has already issued an exemption from DOT regulations for the proposed calibrator shipments.

Environmental Assessment (EA)

Identification of Proposed Action: By letter dated July 21, 1999, FEMA requested a package approval for the transport of ten CDV-794 calibrators by means of an exemption from the requirements of 10 CFR 71.71(c)(1) and (3). On December 19, 2000, FEMA submitted a Safety Analysis and Environmental Report (SA/ER) in support of its application for an exemption. While each calibrator may contain up to 130 curies of cesium-137, FEMA has indicated that the cesium sources are currently at an activity level of about 85 curies. FEMA also proposed compensatory safety measures to support the request for this exemption.

Each calibrator will contain a radioactive source that is designed to meet the special form requirements of 10 CFR 71.75. The source is contained in a tungsten alloy source holder which is bolted and sealed into the primary depleted uranium (DU) shield. The DU shield is bolted to an aluminum-lined steel calibration chamber. This entire assembly is then bolted in a rectangular steel cabinet mounted on a tubular steel stand. The cabinet has two hinged metal covers that allow the calibrator to be locked to prevent unauthorized access. The calibrator is then placed into a custom-design wooden overpack for shipment.

FEMA plans to dispose of nine cesium-137 sources contained in the CDV-794 calibrators by transfer to another licensee. To accomplish this task, nine CDV-794 calibrators will need to be transported from their present location to FEMA's Mount Weather Emergency Assistance Center in Berryville, Virginia; the tenth CDV-794 calibrator will be transferred for use at a U.S. Army facility in Hawaii. FEMA has contracted with the U.S. Army Communication-Electronic Command (CECOM) radiological specialists to supervise and conduct the required shipments. CECOM will travel to each

of the ten sites and conduct contamination surveys and prepare the calibrators for shipment in accordance with FEMA's written procedures. CECOM will ship the calibrators in exclusive-use vehicles and accompany each shipment to its final destination. Upon arrival at FEMA's Mount Weather Emergency Assistance Center, CECOM will conduct physical inspection and contamination surveys. Other properly licensed personnel will then remove the cesium sources, consolidate them into NRC-certified transportation packages and ship them to a contractor's facility in California. Once the cesium sources are removed, CECOM will remove the depleted uranium shields and coordinate final disposition of all remaining calibrator components. FEMA estimates the transport and disposal project will end in 2002, pending the appropriation of sufficient funds for the activity.

Section 71.73(c)(1) and (3) concern tests for hypothetical accident conditions and require: (1) "A free drop of the specimen through a distance of 9 m (30 feet) onto a flat, essentially unyielding, horizontal surface, striking the surface in a position for which maximum damage is expected.", and (2) "A free drop of the specimen through a distance of 1 m (40 in) in a position for which maximum damage is expected, onto the upper end of a solid, vertical, cylindrical, mild steel bar mounted on an essentially unyielding, horizontal surface. The bar must be 15 cm (6 in) in diameter, with the top horizontal and its edge rounded to a radius of not more than 6 mm (0.25 in), and of a length as to cause maximum damage to the package, but not less than 20 cm (8 in) long. The long axis of the bar must be vertical." FEMA determined that the calibrator would not survive a 30-foot drop test because the bolts holding the source shield to the calibrator cabinet would fail. FEMA stated that the calibrator could withstand an accidental 10-foot drop. FEMA also stated that the package meets the other tests for hypothetical accident conditions except for the 1 meter puncture test. FEMA further proposed compensatory safety measures to provide an adequate level of safety during the shipments.

By exempting FEMA from the hypothetical accident free drop and puncture tests in 10 CFR 71.73 the NRC will be able to approve the package for the shipment of nine calibrators to a central facility and one calibrator to another licensee under the general license in 10 CFR 71.12(a). The proposed action before the Commission is whether to grant these exemptions under 10 CFR 71.8 and approve the

package for the one-time transport of these calibrators.

On December 19, 2000, FEMA submitted a SA/ER to NRC to address the proposed shipment of calibrators that does not meet the performance requirements of 10 CFR part 71. FEMA provided additional information on February 13, and March 9, 2001, in response to the NRC staff's requests. The NRC staff has reviewed the application and has determined that authorizing the one-time shipment of each of the ten calibrators, with compensatory safety measures, would not be inimical to public health and safety.

Need for the Proposed Action: FEMA is seeking the exemption to consolidate and properly dispose of calibrators containing a radioactive source to assure adequate protection of public health and safety of FEMA-owned calibrators currently in the possession of state organizations that no longer need, and do not want, to retain the calibrators. FEMA's termination of its Radiological Defense Program and state funding lead to the termination of state Radiological Defense Programs. Some states have requested removal of the FEMA-owned calibrators as quickly as possible because of state funding shortfalls and related difficulties in meeting licensing requirements. FEMA is concerned that persons in possession of the calibrators under the state emergency programs may not have sufficient resources to properly oversee the safety control of the material since FEMA stopped funding these programs. FEMA's Congressional funding does not allow for the development of a Type B package to make the relocations and the time constraints do not allow the use of an authorized package to make the shipments. Further, the state locations at which these units are in storage are not properly constructed to safely allow the removal and the proper packaging of the sources for shipment at the field location.

Environmental Impacts of the Proposed Action: The potential environmental impact of transporting radioactive material pursuant to 10 CFR part 71 was initially presented in the "Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes" for the Proposed Rule to amend 10 CFR part 71 (40 FR 23768 (1977)). The environmental statement was published in 1977 as NUREG-0170, Volumes 1 and 2.

The calibrators were originally manufactured by Technical Operations Inc. The manufacturer certified the calibrators to meet the requirements of DOT Specification 55 containers, which

was approved for use under NRC part 71 general license provisions. Hypothetical accident condition testing was not part of the requirements at the time this package was certified by the user. FEMA has acknowledged that the package would not survive hypothetical accident conditions that involved more than a 10 foot drop or a puncture of the package and that a radiological release could occur and has proposed compensatory safety measures that will provide an adequate level of safety consistent with the requirements of 10 CFR 71.8 by providing effective response to such a postulated accident. These compensatory measures include: (1) Pre and post-packing inspection for radiation hazard and proper packaging, (2) use of an exclusive use vehicle, (3) persons trained in radiation protection escorting the exclusive use vehicle, and (4) operational controls and procedures that would minimize accident risk and would ensure public safety in the event of a transportation accident. The NRC staff concluded by evaluation that the operations and administrative controls proposed by FEMA for the shipment provide reasonable assurance that any radiation exposure to the public or workers will not exceed regulatory limits in the event of an accident during shipment because of the quick response to such an event. Additionally, FEMA has selected transportation routes that will limit the road mileage traveled, further reducing the likelihood of an accident.

The staff concurs with FEMA's safety evaluation of the proposed exemption request and finds that FEMA's planned compensatory measures ensure that use of the package in accordance with the exemption requested does not pose a significant increased risk to public health and safety. Furthermore, the proposed action now under consideration would not change the potential environmental effects assessed in the 10 CFR part 71 rulemaking (40 FR 23768 (1977)).

Therefore, the staff has determined that there will be no significant environmental impacts as a result of approving the exemption for the one-time shipment of the specified calibrators.

Alternatives to the Proposed Action: The staff evaluated an alternative involving removal of the radioactive source at each site and found that this alternative produced a greater occupational exposure (200 mrem versus 20 mrem if shipped under the exemption), and an increased potential for radiation exposure to members of the public. Both of these results are not consistent with the NRC's as low as

reasonably achievable (ALARA) concept, and this alternative would also result in increased handling and storage costs. Another alternative to the proposed action would be to require the state to continue to possess and store these calibrators until such time as FEMA can procure funding to design, test, and obtain NRC approval, and construct a transportation package that meets all 10 CFR part 71 requirements. This alternative would increase the likelihood of loss of control of material currently in the hands of state licensees which have lost Federal funding for their radiation protection programs. As such, both of the alternatives are less desirable than the proposed action.

Agencies and Persons Consulted: Officials from the DOT Office of Hazardous Materials Technology, and the Bureau of Radiological Health, Virginia Department of Health, were contacted about the EA for the proposed action and had no concerns.

Finding of No Significant Impact

The environmental impacts of the proposed action have been reviewed in accordance with the requirements set forth in 10 CFR part 51. Based upon the foregoing EA, the Commission finds that the proposed action of approving a package with an exemption from 10 CFR 71.73(c)(1) and (3) so that FEMA may transport ten calibrators containing cesium-137 will not significantly impact the quality of the human environment. Accordingly, the Commission has determined not to prepare an environmental impact statement for the proposed exemption.

For further details with respect to this exemption request, see the FEMA exemption request dated July 21, 1999, and FEMA's Safety Analysis and Environmental Report dated December 19, 2000, as supplemented February 13, and March 9, 2001, which are docketed under 10 CFR part 30, Docket No. 30-7130.

The exemption request is available for public inspection at the Commission's Public Document Room, One White Flint North, 11555 Rockville, MD 20852, or from the publicly available records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Dated at Rockville, Maryland, this 12th day of April 2001.

For the Nuclear Regulatory Commission.

E. William Brach,

Director, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards.

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NUCLEAR REGULATORY COMMISSION

[Docket No. 50-412]

Pennsylvania Power Company, Ohio Edison Company, FirstEnergy Nuclear Operating Company, Beaver Valley Power Station, Unit No. 2; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an exemption from certain requirements of its regulations for Facility Operating License No. NPF-73, issued to FirstEnergy Nuclear Operating Company, et al. (the licensee), for operation of Beaver Valley Power Station, Unit No. 2 (BVPS-2), located in Shippingport, Pennsylvania.

Environmental Assessment

Identification of the Proposed Action

The proposed action would exempt the licensee from the requirements of Title 10 of the Code of Federal Regulations (10 CFR) Section 50.71(e)(4) regarding submission of revisions to the Final Safety Analysis Report (FSAR) for BVPS-2. The proposed action would extend the regulatory requirement for submission of the next required update to the BVPS-2 FSAR from April 25, 2001, to August 23, 2001. The revision submitted would be required to reflect all changes made from the date the last revision was filed on April 30, 1999, to October 25, 2000 (6 months prior to the originally-required filing date of April 25, 2000).

The proposed action is in accordance with the licensee's application for exemption dated March 13, 2001 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML010790328).

The Need for the Proposed Action

Section 50.71(e)(4) requires licensees to submit updates to their FSAR within 6 months after each refueling outage providing that the interval between successive updates does not exceed 24 months. BVPS-2's most recent refueling outage was completed on October 25, 2000, and the most recent revision to the BVPS-2 FSAR was filed on April 30, 1999. In order to comply with 10 CFR 50.71(e)(4), the licensee would need to