NUCLEAR REGULATORY COMMISSION

[Docket No. 50–369]

Duke Power Company, LLC; Mcgure Nuclear Station, Unit 1; Environmental Assessment and Finding of No Significant Impact

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an exemption from Title 10 of the *Code of Federal Regulations* (10 CFR) Part 74, § 74.19(c), for Facility Operating License No. NPF–9, issued to Duke Power Company, LLC (the licensee), for operation of the McGuire Nuclear Station, Unit 1, located in Mecklenburg County, North Carolina. Therefore, as required by 10 CFR 51.35 and 51.119, the NRC is publishing this environmental assessment and finding of no significant impact.

Environmental Assessment

Background

Duke Power Company, LLC (the licensee) is the holder of Facility Operating License No. NPF–9 which authorizes operation of the McGuire Nuclear Station, Unit 1 (McGuire 1), located in Mecklenburg County, North Carolina. The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the Nuclear Regulatory Commission (NRC), now or hereafter in effect.

In 1986, a fuel assembly (D03) was found to have been damaged, and this resulted in fuel pellets being released from some of the assembly's fuel rods. The licensee vacuumed the loose fuel pellets and placed them, along with the vacuum filters, in a pellet-can. A metal plate was placed on top of the filters, and the pellet-can was placed into a storage cell in the McGuire 1 spent fuel pool (SFP).

At the time of the event, commercial containers were not available to store the recovered material. As such, a container was constructed onsite with readily available material. The container is approximately 12 feet in length. The bottom portion is constructed of metal plates welded together in the form of a rectangular can. The top portion consists of four right-angled metal bars welded to the bottom portion of the pellet-can. These four right-angled metal bars extend the entire length of the pellet-can. To close off the open area of the top portion of the pellet-can, a steel mesh screen was tack-welded to the metal bars. At the top of the pellet-can, two bolt studs were welded in opposite corners. To move the pellet-can, two wire ropes are used to snag the bolt studs.

Since the initial placement into the SFP in 1986, the pellet-can has not been moved or lifted until the licensee conducted a physical inventory in 2007. During the 2007 inventory, the pellet-can was moved to a low dose area in the SFP in order to take radiation readings of the pellet-can. Since the loose pellets in the pellet-can are not visible, an underwater radiation detector was used to acquire dose rate measurements as part of the 2007 physical inventory. The results of this verification provided an indirect means of determining the presence of fuel pellet material within the pellet-can. High dose rate measurements provided confirmation of fuel pellet material within the pellet-can. Although this method is not capable of precisely determining the exact number of pellets, the results indicate multiple pellets within the pellet-can. Depending on the exact location and orientation, there are potentially as many as five or six fuel pellets stored within the pellet-can.

In addition, the licensee conducted a video inspection of the pellet-can which showed a plate and small segments of the filter medium around the edges of the plate. This configuration appears consistent with the description of the pellet-can contents as provided by personnel involved with the 1986 incident and the station records from that time. The loose pellets and fuel fragments within the pellet-can have always been treated as Special Nuclear Material (SNM).

When moved during the 2007 physical inventory, degradation of the pellet-can was observed. During handling, removal of the steel mesh screen was necessary, since it was partially unattached, leaving the top portion of the pellet-can open.

In order to take radiation readings of the pellet-can, the licensee must again move the pellet-can to a low dose area in the SFP. Due to both the method used to handle the pellet-can and the pellet-can's degradation, there is a possible risk of dropping fuel pellets. Instead of utilizing a radiation monitor, the licensee is requesting the use of a video inspection of the interior of the pellet-can to verify that its contents have not been disturbed since the previous inspection.

Identification of the Proposed Action

Per its letter of December 3, 2007, the licensee has requested an exemption from the requirements of 10 CFR 74.19(c) to address the physical inventory of loose fuel pellets stored in a container (pellet-can) located in the McGuire 1 SFP storage racks. The licensee requests the physical inventory of the pellet-can be limited to a video inspection of the interior without disturbing the contents or requiring the movement of the pellet-can. The licensee requested that this exemption be granted and remain in effect until such time that the pellet-can is placed into an appropriate container, planned no later than December 31, 2010.

Section 74.19(c) requires that each licensee conduct a physical inventory of all special nuclear material (SNM) in its possession at intervals not to exceed 12 months. The requirement for a physical inventory of all SNM mandates that a visual accounting of all assemblies, rods, rod segments, rod pieces, and other structurally discrete parts that contain SNM be performed. This would require the loose fuel pellets and fuel fragments from Fuel Assembly D03 within the pellet-can to be visually verified during a physical inventory.

The proposed action would be to grant the licensee's exemption request as described above.

The Need for the Proposed Action

The NRC regulation 10 CFR 74.19(c) requires a licensee possessing special nuclear material, at any one time and site location, in a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, to conduct a physical inventory of all special nuclear material in its possession at intervals not to exceed 12 months. The licensee would have to move the pellet-can to a low dose area in the SFP in order to take radiation readings of the pellet-can's contents with a radiation monitor. Given the pellet-can's degraded condition and the means available to the licensee to move the pellet-can, there is a possible risk of dropping fuel pellets. The licensee is requesting that a video inspection of the interior of the pellet-can be considered a sufficient basis to verify that the contents have not been disturbed since the previous inspection.

The licensee's past inventory practices were limited to a visual verification that the pellet-can was in the location specified by the SNM inventory record database. The loose pellets and fuel fragments within the pellet-can were not visually verified. A physical inventory in accordance with 10 CFR 74.19(c) of the loose pellets and fuel fragments would require an effort to recover, separate and secure each loose pellet and fuel fragment from within the pellet-can. Undertaking this effort would impose a significant hardship and regulatory burden. The effort to visually verify SNM requires the

development of specialized tools and processes. Moreover, this effort may result in the potential spread of contamination within the SFP water. The filters have degraded over time and any recovery attempts may result in the possible discharge of fuel pellets or fuel fragments into the SFP. Further, removal of the loose pellets and fuel fragments from the container would be difficult as a result of this material (fuel pellets) being entangled within the filter medium.

Environmental Impacts of the Proposed Action

NRC has completed its safety evaluation of the proposed action and concludes that the underlying purposes of 10 CFR 74.19(c) is to ensure that SNM is properly accounted for, appropriately secured and authorities are informed of any theft, diversion, or loss. Allowing the licensee to address the physical inventory of the loose fuel pellets within the pellet-can by the use of a video inspection of the interior without disturbing the contents will assure that the SNM in the pellet-can is accounted for. Limiting the movement of the pellet-can will assure that, in its degraded condition, it will not fail and potentially allow the fuel pellets to become lost in the SFP. Therefore, there is no undue risk to public health and safety.

The details of the staff's safety evaluation will be provided in the exemption that will be issued as part of the letter to the licensee approving the exemption to the regulation.

The proposed action will not significantly increase the probability or consequences of accidents. No changes are being made in the types of effluents that may be released off site. Granting the proposed exemption request will not result in a significant increase in the amount of any effluent released off-site nor will it result in any significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential non-radiological impacts, the proposed action does not have a potential to cause effects on any historic properties. It does not affect non-radiological plant effluents and has no other environmental impact. Therefore, there are no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Environmental Impacts of the Alternatives to the Proposed Action

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the ''no-action'' alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources

The action does not involve the use of any different resources than those previously considered in the ''Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 8 (Regarding McGuire Nuclear Station Units 1 and 2),'' NUREG–1437, dated December 2002.

Agencies and Persons Consulted

In accordance with its stated policy, on March 10, 2007, the staff consulted with the North Carolina State official, Dale Dusenbury of the North Carolina Department of Environment and Natural Resources, regarding the environmental impact of the proposed action. The State official had no comments.

Finding of No Significant Impact

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated December 3, 2007. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, *http://www.nrc.gov/reading-rm/adams.html*. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff by telephone at 1–800–397–4209 or 301–415–4737, or send an e-mail to *pdr@nrc.gov*.

Dated at Rockville, Maryland, this 12th day of March 2008.

For the Nuclear Regulatory Commission.

John Stang,

Senior Project Manager, Plant Licensing Branch II–1, Division of Operating Reactor Licensing, Office of Nuclear Reactor Regulation.

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NUCLEAR REGULATORY COMMISSION

Advisory Committee on the Medical Uses of Isotopes: Meeting Notice

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Notice of meeting.

SUMMARY: NRC will convene a meeting of the Advisory Committee on the Medical Uses of Isotopes (ACMUI) April 28–29, 2008. A sample of agenda items to be discussed during the public session includes: (1) ACMUI comments on the National Academies of Sciences report (*http://www.nap.edu/catalog.php?record_id=11976*); (2) ACMUI subcommittee recommendations on regulating the Leksell Gamma-Knife® Perfexion™; (3) potential revisions to the Abnormal Occurrence criteria; (4) subcommittee report on medical events and analysis of causes; (5) emerging technology; (6) yttrium 90 microsphere guidance; (7) status of active petitions for rulemaking; (8) NARM transition plan update; and (9) status of specialty board applications for NRC recognition. A copy of the agenda will be available at *http://www.nrc.gov/reading-rm/doc-collections/acmui/agenda* or by e-mailing Ms. Ashley M. Tull at the contact information below.

Purpose: Discuss issues related to 10 CFR Part 35 Medical Use of Byproduct Material.

Date and Time for Closed Sessions: April 28, 2008 from 3:30 p.m. to 5:30 p.m. This session will be closed so that NRC staff and ACMUI can prepare for the Commission meeting.

Date and Time for Open Sessions: April 28, 2008, from 8 a.m. to 3:30 p.m. and April 29, 2008, from 8 a.m. to 3 p.m.

Address for Public Meeting: U.S. Nuclear Regulatory Commission, Two White Flint North Building, Room T2–B3, 11545 Rockville Pike, Rockville, Maryland 20852.

Public Participation: Any member of the public who wishes to participate in the meeting should contact Ms. Tull using the information below.

Contact Information: Ashley M. Tull, e-mail: *amt1@nrc.gov*, telephone: (301) 415–5294 or (918) 488–0552.