

December 14, 2000

Lewis E. Patrie, M.D., M.P.H.
Western North Carolina Physicians
for Social Responsibility
99 Eastmoor Drive
Asheville, NC 28805-9211

Dear Dr. Patrie:

I am responding to your October 26, 2000, letter which requested that the U.S. Nuclear Regulatory Commission (NRC) hold public hearings in communities potentially affected by the use of mixed oxide (MOX) fuel in the Catawba and McGuire reactors, including Asheville, North Carolina. Your letter also included an enclosure from the Concerned Citizens from Western North Carolina, dated October 21, 2000, which also requested that public hearings be held and raised several other issues.

The Department of Energy's (DOE) Fissile Materials Disposition program to reduce the global nuclear danger associated with inventories of surplus weapons-usable fissile materials consists of several parts. As part of DOE's program, a DOE contractor, Duke Cogema Stone & Webster (DCS), will seek authority from NRC to construct and operate a MOX fuel fabrication facility at DOE's Savannah River Site and to subsequently irradiate the MOX fuel in commercial power reactors at Duke Power's Catawba and McGuire plant sites to render the weapons-usable plutonium unattractive and inaccessible for use in nuclear weapons.

DCS' request to construct and operate a MOX fuel fabrication facility requires NRC approval. The request for authority to construct a MOX facility is expected in February 2001. The request for authority to operate a MOX facility is expected in mid-2002. As part of its review process, the NRC will evaluate the anticipated environmental impacts of the proposed actions. As a part of this environmental evaluation, public scoping meetings will be held. As the staff stated in public meetings held in Columbia and North Augusta, South Carolina in July 2000, the NRC plans to consider Charlotte, North Carolina, as a possible site for one of the public scoping meetings. These scoping meetings will be part of the NRC's process to support development of its Environmental Impact Statement (EIS) for the MOX fuel fabrication facility. The first such public meeting on the EIS is expected to occur approximately a few months after receipt of the MOX fuel fabrication facility environmental report, which is expected to be filed shortly. At least one of the public scoping meetings related to the MOX fuel fabrication facility will be held in the vicinity of the Savannah River Site.

To use MOX fuel in a reactor, a reactor licensee must submit a license amendment application to NRC. The NRC affords the public an opportunity to request a hearing after the receipt of a license amendment application. A license amendment application to use MOX fuel in a commercial reactor is not expected before August 2001. The staff has been informed that the initial amendment application in this regard would seek NRC approval to insert several MOX fuel assemblies, known as Lead Test Assemblies (LTAs), in the McGuire reactor. These LTAs would be irradiated and subsequently inspected. License amendment applications to insert MOX fuel assemblies into the Catawba reactor and to insert MOX fuel assemblies, other than LTAs, into the McGuire reactor, are not expected before January 2004. Once Duke Power, the licensee for Catawba and McGuire, submits applications for license amendments, notices of opportunity for a hearing would be published in the Federal Register. A public hearing would only be held if a request for a hearing is filed, and if the Atomic Safety and Licensing Board (ASLB) determines that the requirements for a hearing in Title 10 of the Code of Federal Regulations, Part 2, Subpart G, are met. The ASLB decides whether hearings are held. Should hearings be conducted, the time, location, and scope of such hearings are at the discretion of the ASLB. In addition to potential public hearings, the NRC plans to hold public meetings in the vicinity of the reactor sites to receive public input on the applications to utilize MOX fuels at Catawba and McGuire; however, the location and schedules for these meetings will not be established until an application is received from Duke Power. A response to the other items identified in the enclosure to your letter is provided in the enclosure to this letter.

Sincerely,

/RA/

William F. Kane, Director
Office of Nuclear Material Safety
and Safeguards

Enclosure:

NRC Response to 10/21/00
Letter from the "Concerned
Citizens of Western North
Carolina" (Enclosure to
10/26/00 Letter of Western
North Carolina Physicians for
Social Responsibility)

cc: James Johnson, DOE
Henry Potter, SC Dept of Health
& Environmental Control
John T. Conway, DNFSB

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cc: James Johnson, DOE; Henry Potter, SC Dept of Health & Environmental Control;
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Docket 70-3098	ADAMS	PUBLIC	EDO r/f	NMSS Dir.Off. r/f
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OFC	SPB	SPB	SPB	SPB	FCSS
NAME	APersinko:dr/cc*	DAHoadley*	MGalloway*	ELeeds*	RPierson
DATE	12/4/00	12/4/00	12/5/00	12/6/00	12/ /00

OFC	FCSS	OGC	NRR	NMSS	NRR
NAME	MWeber*	JHull (NLO)*	JZwolinski*	WKane (MV for)	RJBarrett*
DATE	12/6/00	12/11/00	12/11/00	12/14/00	12/7/00

C-COVER

E-COVER & ENCLOSURE

N-NO COPY

NRC Response to 10/21/00 Letter from the
"Concerned Citizens of Western North Carolina"
(Enclosure to 10/26/00 Letter of Western North
Carolina Physicians for Social Responsibility)

The enclosure referred to a loss of offsite power (LOOP) that occurred at Catawba Nuclear Station, Unit 2 (Catawba 2) on February 6, 1996, and expressed the concern that the U.S. Nuclear Regulatory Commission (NRC) staff withheld information regarding the event from the public. First, as a Federal agency, NRC does not withhold information from the public. In response to the LOOP, one of the two emergency diesel generators (EDGs) started and operated as expected, but the other EDG was out of service for maintenance when the event started. However, the out of service EDG was placed in service approximately 3 hours after the start of the event. These EDGs were secured approximately 7 hours after the start of the event as, by then, offsite power was provided by a cross connect from Unit 1. The NRC staff conducted a special inspection from February 8-13, 1996, and reported the results in an inspection report (Inspection Report Nos. 50-413/96-03 and 50-414/96-03, and Notice of Violation) issued on March 12, 1996. This inspection report was placed in the Public Document Room (PDR). The Licensee Event Report issued by the licensee to the NRC on March 7, 1996, was also placed in the PDR. In addition, in December 1997, a further analysis of the event was issued in the report, NUREG/CR-4674, Vol. 25, entitled "Precursors to Potential Severe Core Damage Accidents: 1996." These documents were all made publically available for the express purpose of providing full information to the public regarding the event.

The enclosure also discussed some concerns about using MOX fuel in plants with an ice condenser containment (ICC). We believe your concerns relate to a severe accident study released by Sandia National Laboratories, "Assessment of the DCH [Direct Containment Heating] Issue for Plants with Ice Condenser Containments" (NUREG/CR-6427). We wish to emphasize that plants with ICCs continue to meet NRC design basis requirements and NRC regulations. Severe accident studies evaluate low probability hypothetical accidents beyond the design basis to gain additional insights into a specific plant's design features. The Sandia study was performed, as part of the Office of Nuclear Regulatory Research's program, to resolve certain severe accident phenomena that were identified in risk analyses as potentially significant. The study concluded that ICC plants are more vulnerable to particular severe accident sequences than large dry containments. Even though the vulnerability of ICC plants was judged to be higher for particular severe accident sequences, the overall safety of the plants remains adequate considering the probabilities of these events in the context of the Commission's safety goals. The key finding of the report was that early containment failure in ICC plants is dominated by hydrogen combustion which largely depends on plant-specific probabilities for station blackout. ICC plants have igniter systems for hydrogen control and these systems are not operable during station blackout events. The NRC staff plans to evaluate the functionality of hydrogen igniters during station blackout at ICC plants through the generic safety issue program. The NRC staff informed the Commission of its intention to perform such an evaluation consistent with the policy discussion on backfit considerations in SECY-00-0198, "Status Report on Study of Risk-Informed Changes to the Technical Requirements of 10 CFR Part 50 (Option 3) and Recommendations on Risk-Informed Changes to 10 CFR 50.44 (Combustible Gas Control)," dated September 14, 2000.

Enclosure

The enclosure also discussed the use of nuclear power plants with ICCs in the Department of Energy's (DOE's) Material Disposition Program for excess weapons-grade plutonium. In public interviews, the NRC staff reviewing the Sandia report has stated that an accident in a plant using mixed plutonium-uranium oxide (MOX) fuel would not challenge the containment significantly more than an accident in a plant using conventional fuel. But this is only a preliminary conclusion, and we have begun a research program to corroborate this conclusion and prepare a technical basis for reviewing license amendments associated with the use of MOX fuel.

At this time, the NRC staff cannot respond further to the issues regarding the consequences of using MOX fuels because those parties developing plant-specific designs and analyses, including plant-specific consequence analyses, have not finished their work. In fact, it is our understanding that the industry is not likely to submit the application for lead test assemblies to the NRC before August 2001 and the application for batch irradiation of MOX fuel before early 2004. Issues, such as those discussed in the enclosure, will be considered when the NRC staff reviews the issue of using ICC plants to irradiate MOX fuel.