

Docket

Docket No. 50-155

Honorable Gerald R. Ford
House of Representatives

Dear Mr. Ford:

We are pleased to reply to your letter of March 1, 1973, concerning Mrs. Calvin Miller's inquiry regarding the use of plutonium fuel in the Big Rock Point nuclear power plant at Charlevoix, Michigan.

The Big Rock Point nuclear power plant was shut down early in March 1973 for routine inspection, maintenance, and partial refueling of the nuclear core. During this shutdown the nuclear core will be refueled for the tenth time since initial startup ten years ago. The depleted fuel bundles will be replaced with new fuel bundles which are essentially the same as those removed except that six of the new bundles will be partially enriched with plutonium as well as uranium fissile fuel. The new fuel to be inserted during March 1973 will contain approximately 18 pounds of plutonium in contrast to more than 265 pounds of enriched uranium. The total fissile inventory for the refueled core will be approximately 768 pounds U-235 and 65 to 80 pounds of plutonium. When the facility resumes operation in April 1973, the nuclear core will, in fact, contain less plutonium than it did prior to the refueling outage because the amount of recycle plutonium added with the new fuel is less than the amount which had been produced during irradiation of the depleted fuel that was removed.

The design features of the new fuel bundles containing plutonium enhance fuel rod integrity. We have performed a comprehensive technical evaluation of the proposed plutonium fuel, and based on this review we concluded that the use of these bundles with restricted amounts of plutonium does not present significant hazards considerations not described or implicit in the Big Rock Point Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered by operation of the reactor with plutonium enriched fuel as proposed.

The "leak" referenced in Mrs. Miller's letter occurred over a 20-hour period during December 1972 and involved a release of radioactive material from the standby or emergency condenser vent to the atmosphere. The release levels were well within safe limits and resulted in equivalent.

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Honorable Gerald R. Ford

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exposure at the site boundary of approximately 0.14 mR compared with the normal background from the sun and environment of approximately 100 mR/year.

The specific proposal to use plutonium fuel in the Big Rock Point core was carefully and thoroughly evaluated by the USAEC Regulatory staff for more than a year before it was approved by the enclosed letter dated December 6, 1972. In addition, the use of plutonium fuel in water-cooled reactors has been anticipated for more than 15 years during which the national laboratories studied various aspects of the use of plutonium fuel. The Battelle Northwest Laboratory, in particular, performed extensive investigations of plutonium utilization in commercial power reactors.

Sincerely,

Original Signed by
A. Giambusso

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

Enclosure:
Ltr dtd 12/6/72

Distribution

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SEE ATTACHED YELLOW FOR CONCURRENCES:

OFFICE ▶ X7403	L:ORB #2 JJShea:sjh	L:RP	OCR		Copy sent PDR
SURNAME ▶	DLZiemann	AGiambusso			
DATE ▶	3/22/73	3/22/73	3/22/73		

exposure at the site boundary of approximately 0.014 mR compared with the normal background from the sun and environment of approximately 100 mR/year.

The use of plutonium fuel in water-cooled reactors has been anticipated for more than 15 years, and the risks associated with the use of plutonium in water-cooled nuclear power plants have been carefully explored and documented by the national laboratories, particularly the Battelle Northwest Laboratory where plutonium utilization in commercial power reactors was systematically evaluated. The specific proposal to use plutonium fuel in the Big Rock Point core was carefully and thoroughly evaluated by the USAEC Regulatory staff for more than a year before approval to use plutonium in the Big Rock Point plant was granted by the enclosed letter dated December 6, 1972.

Sincerely,

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

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3/13/73

OFFICE ▶ X7403	L:ORB #2 JJShea	L:ORB #2 DLZiemann	OGC JScinto	L:OR DJskovholt	L:RP AGiambusso	OCR OCR
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DATE ▶	3/13/73	3/13/73	3/13/73	3/13/73	3/13/73	3/13/73

Docket No. 50-155

DRAFT #1
JJShea:sjh
3/12/73

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House of Representatives

Dear Mr. Ford:

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The design features of the new fuel bundles containing plutonium enhance fuel rod integrity. We have performed a comprehensive technical evaluation of the proposed plutonium fuel, and based on this review we concluded that the use of these bundles with restricted amounts of plutonium does not present significant hazards considerations not described or implicit in the Big Rock Point Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered by operation of the reactor ^{with the} in the manner proposed.

The "leak" referenced in Mrs. Miller's letter occurred over a 20-hour period during December 1972 and involved a ~~radioactivity~~ ^{of radioactive material from} release at the standby or emergency condenser vent to the atmosphere. The release levels were well within safe limits and resulted in equivalent exposure at the site boundary of approximately 0.014 mR compared with the normal background from the sun and environment of approximately 100 mR/year.

The use of plutonium fuel ^{in water cooled reactors} has been anticipated for ~~many~~ ^{more than 15} years, and the risks associated with the use of plutonium in water-cooled nuclear power plants have been carefully explored and documented by the national laboratories, particularly the Battelle Northwest Laboratory where plutonium utilization in commercial power reactors was systematically evaluated. The specific proposal to use plutonium fuel in the Big Rock Point core was ^e carefully and thoroughly evaluated by the ^{USAEC} Regulatory ^{staff} agency.

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for more than a year before approval to use plutonium in the Big Rock Point plant was granted by the enclosed letter dated December 6, 1972.

Sincerely,

A. Giambusso, Deputy Director
for Reactor Projects
Directorate of Licensing

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