

November 22, 1978

9.7

Enclosure to  
12-12-78

SECY-78-607

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

POLICY SESSION ITEM

For: The Commissioners

From: Harold R. Denton, Director  
Office of Nuclear Reactor Regulation

Thru: f Executive Director for Operations *C. J. H. H.*

Subject: TWO REQUESTS TO TRANSFER AND STORE SPENT  
FUEL AT REACTOR SITES OTHER THAN THE SITES WHERE THE  
FUEL WAS IRRADIATED, AND TO HAVE SUCH STORAGE  
INDEMNIFIED.

Purpose: To obtain Commission approval of the two  
requests to store spent fuel at reactor sites other  
than the site of the reactor where the spent fuel  
was irradiated and to obtain Commission approval of  
extension of indemnity coverage for these activities.

Category: This paper covers a policy matter.

Issue: Whether the Commission should exercise its  
discretionary authority to require financial protection  
and extend indemnity coverage with respect to two  
separate requests for storage of spent fuel at  
reactor locations away from the reactor at which the  
spent fuel was produced.

Background: Most operating reactor licensees have increased or  
are planning to increase, the capacity of their on-  
site spent fuel storage pools. In some instances  
where the capacity of the storage pools at the  
reactor site cannot be increased sufficiently to  
meet the licensees' needs, fuel storage may be  
sought at another location. One method of storing  
spent fuel away from the reactor from which it is  
discharged is to store it in the spent fuel pool of  
a reactor at another site.

Contact:  
Ira Dinitz  
492-8336

7812270483

The Commission has received two requests, from Duke Power Company and from Commonwealth Edison, to authorize this type of fuel storage. The Duke Power request is for Commission authorization permitting Duke to store spent fuel discharged from its Oconee Units 1, 2 and 3 reactors at its McGuire Unit 1 reactor. In the second request, Commonwealth Edison is seeking authority to transfer and store spent fuel among Dresden Units 2 and 3 and Quad-Cities Units 1 and 2. Both licensees are also seeking Price-Anderson indemnity protection for all such storage of spent fuel at the distant reactor locations.

The two requests have some similarity to the 1977 request by Carolina Power and Light Company to store spent fuel from its H. B. Robinson reactor in the pools at Brunswick Units 1 and 2 and to have that storage indemnified. The Carolina request was discussed in SECY-77-403 and approved by the Commission at Policy Session 77-41 on August 26, 1977. The Commission stated in the Carolina case that its action with respect to indemnity coverage should not be considered as setting a precedent in this area and that similar requests would be considered on a case-by-case basis.

Under the Price-Anderson Act (§ 170 of the Atomic Energy Act of 1954, as amended, (the Act)), financial protection and government indemnity are mandatory for production and utilization facilities, such as reactors, licensed under § 103 and § 104 of the Act. This financial protection and indemnity covers the "licensed activity" which encompasses not only possession and operation of the reactor facility itself but also certain ancillary activities including (1) possession of the new fuel (containing special nuclear material) being stored on-site for use in the reactor and (2) on-site storage of spent fuel following irradiation at that reactor.

Possession of spent fuel away from the facility where it is generated, i.e., at a location where it

is not used in connection with the operation of the facility, is not a part of the ancillary activity of possession and operation of the facility. Hence, possession of such spent fuel must be licensed under other provisions of the Act which authorize licenses for possession and use of the special nuclear and byproduct material. This spent fuel would not be covered under the requirement of the Act that the Commission require financial protection of and indemnify reactor (and other production and utilization facility) licensees. Accordingly, no indemnity protection would be afforded spent fuel stored away from the facility where it is produced or used (for example, at a storage facility such as General Electric Company's Morris plant), unless the Commission exercises its discretionary authority under the Act to require such licensees to maintain financial protection and to be indemnified.

As stated above, the Commission exercised its discretionary authority to require financial protection and provide indemnity coverage for the storage of H. B. Robinson spent fuel at the Brunswick spent fuel pools. This exercise of discretionary authority resulted in treating spent fuel produced at one reactor site (Robinson) but stored at a different reactor site (Brunswick) the same as spent fuel stored at the site of the reactor where it was produced. Thus, Robinson irradiated fuel whether stored by itself in a Brunswick spent fuel pool or commingled with Brunswick irradiated fuel in the Brunswick spent fuel pool was covered by financial protection and indemnity.

Discussion:

1. Duke has requested Commission authorization to store spent fuel generated by Oconee reactor Units 1, 2, and 3 at McGuire Unit 1. This action would allow Duke to utilize existing storage space at McGuire while maintaining full core reserve at Oconee. Other alternatives for storing the fuel were evaluated by Duke but were stated not to be viable options. While the staff environmental impact appraisal on this matter has not yet been issued, we expect its issuance by the end of November. According to Duke's current projection of the predicted fuel burnup rates at Oconee, the first shipment of



spent fuel to McGuire must occur in March 1979 in order to maintain a full core discharge capability at the Oconee station.<sup>1/</sup>

- 
- <sup>1/</sup> Duke has sought an amendment to its Part 70 McGuire license, which presently authorizes it to receive and store McGuire unirradiated fuel to also allow for the receipt and storage of Oconee spent fuel at the McGuire facility spent fuel pool.

On July 28, 1978 (43 Fed. Reg. 32905), the NRC published a notice of opportunity for public participation with respect to the application for amendment to Materials License No. SNM-1773 (issued pursuant to 10 CFR Part 70) to authorize the receipt and storage of Oconee spent fuel at McGuire. Petitions to intervene and requests for hearing were received. Preliminary hearing procedures are now being conducted by an Atomic Safety and Licensing Board to rule on the petitions to intervene and requests for hearing.

The construction of McGuire Unit 1 is proceeding on schedule. Evidentiary hearings by the Atomic Safety and Licensing Board were completed in the operating license proceeding, Docket Nos. 50-369 and 50-370, and the record closed on August 31, 1978. An operating license decision is projected for January 1979. By the date that Duke intends to make the first shipment of Oconee spent fuel to McGuire in March 1979, the Commission will in all likelihood have reached its decision on the issuance of the McGuire OL.

Notwithstanding the questions of the timing of the issuance of an OL in relation to the date of proposed shipment of spent nuclear fuel from Oconee to McGuire, the staff believes that the shipment of spent fuel to a reactor that does not have an operating license is such a significant departure from the factors weighed in the Commission's consideration of the Brunswick/Robinson indemnification question that it could not recommend indemnifying the storage of Oconee fuel at McGuire under a Part 70 license at this time before considering the conclusions and recommendations of a broad staff study which examines the question of whether Price-Anderson coverage should be extended to materials licensees. However, the staff could recommend indemnification of the storage of Oconee fuel at McGuire if that proposed action were to take place after the issuance of an operating license for McGuire Unit 1.

2. The second request, from Commonwealth Edison, seeks amendment of the operating licenses and indemnity agreements for Dresden Units 2 and 3 and Quad-Cities Units 1 and 2 to permit spent fuel transfer and storage between the two sites. This inter-station fuel transfer and storage is stated by Commonwealth to be necessary both to postpone the loss of full core discharge capability at the Dresden site from 1979 to 1981 and to allow expansion of the Dresden fuel storage pool for the storage of Dresden spent fuel and possibly Quad-Cities spent fuel at a later date.

Both proposals to modify operating licenses and indemnity agreements are similar in that the spent fuel proposed to be stored at certain reactors was not produced at those reactors. The staff believed, and its recommendations to the Commission last year relative to the Robinson/Brunswick situation indicated, that it would not have been desirable to have a situation where Robinson spent fuel stored in the Brunswick spent fuel pools was unindemnified while at the same time spent fuel produced in Brunswick and stored there was indemnified. If indemnity coverage were not extended to the Robinson spent fuel stored at Brunswick, and an accident occurred involving the fuel storage pool it would have been virtually impossible to determine whether indemnified or unindemnified spent fuel caused any damage that may have occurred. The staff also stated its belief that the public perception of Price-Anderson is that all activities at an operating reactor are indemnified, and the public should not have to be concerned with the specific authority under the Act for indemnifying particular nuclear material at a reactor.

To varying degrees, the same arguments that were made in recommending that indemnity apply to the Robinson spent fuel stored at Brunswick could also be applied to both the Duke Power and Commonwealth Edison requests. However, each request has characteristics which distinguish it, at least in part, from the Robinson/Brunswick situation.

If the transfer of irradiated fuel among the Commonwealth Edison reactors were approved, but indemnity were not extended, the spent fuel being transferred would not be indemnified in the receiving reactor's spent fuel pool while the spent fuel discharged from the receiving reactor itself would be indemnified. As in the Robinson/Brunswick situation previously discussed, in the event of an accident involving the fuel storage pool, it would be virtually impossible to determine whether indemnified or unindemnified spent fuel caused any damage that may have occurred.

However, the Commonwealth situation highlights a problem of inconsistency in indemnity treatment for reactors as opposed to fuel storage installations. Some irradiated Dresden fuel is now being stored away from the Dresden reactor facility at the GE Morris installation. As noted above, this storage is not indemnified. In the present case the licensee requests that similar Dresden fuel when stored away from the Dresden facility at the Quad Cities reactor be indemnified. Nevertheless, the staff believes that the two factors mentioned above - public perception that all activities at an indemnified nuclear reactor facility are protected by Price-Anderson indemnity and the impossibility of determining the source of damages in the event of an accident at a facility where indemnified and unindemnified fuel are mixed - are sufficient to distinguish the requested action from the situation at Morris and warrant Price Anderson indemnity extension to this situation. If the Commission agrees to this extension of indemnity, the definition of "the radioactive material" in the Dresden and Quad Cities indemnity agreements will have to be modified to indemnify the inter-station storage of fuel.

The situation arguably is different, however, in the case of storing spent fuel from Oconee at McGuire Unit 1. Storage of Oconee fuel could be authorized for the empty pool at McGuire (without any Price-Anderson indemnity coverage) until any McGuire fuel would be required to be discharged into the same spent fuel pool either for planned refueling or in an emergency. However, because it cannot be determined



when, if ever, such an emergency might arise, the staff believes that it is still necessary to indemnify the Oconee fuel even though it would initially be stored in the empty McGuire fuel storage pool.

In any event, the staff also believes that even if there is no commingling of Oconee and McGuire fuel, any fuel stored in a storage pool of an operating reactor, whether or not produced at the reactor, should be covered by financial protection and indemnity. A member of the public who might sustain an injury from a nuclear incident at a reactor should not need to be concerned with the licensing details of the fuel stored at the reactor and involved in the accident.

As stated earlier, the staff believes that if the Commission were to decide to indemnify the storage of spent fuel at McGuire Unit 1, the McGuire Part 50 operating license should be modified if and when it is issued, to provide for this storage and the definition of "radioactive material" in the McGuire indemnity agreement should be modified pursuant to 10 CFR § 140.9 to indemnify this storage.

As indicated in the note on page 4, it is anticipated that the operating license decision for McGuire would be made before fuel transfer from Oconee to McGuire takes place. However, if the operating license issuance is delayed, the transfer of irradiated Oconee fuel to McGuire before operation of McGuire is authorized would raise problems substantially different from those posed in the Robinson-Brunswick situation. One problem would be the setting of an appropriate level of financial protection for spent fuel storage at a facility that does not have an operating license. Thus far, the amount of financial protection required for a facility which has not received an operating license is set at \$1 million to reflect the limited potential for damage associated with cold fuel. However, the storage of spent fuel at such a facility would in all likelihood require establishing a different level of financial protection.

The staff is continuing to work on a study that examines the question of whether storage of spent fuel away from a reactor where it is produced, as well as whether certain other materials licenses, should be indemnified under the Commission's discretionary authority. The staff is not aware of any other similar requests, apart from the two discussed in this paper, to store irradiated fuel at reactors other than those from which the fuel is discharged that the Commission will have to consider before it receives the broad study. This study has been delayed in completion because of problems in data collection and analysis, but is presently scheduled to be completed in a few months.

The Commission's decision to exercise, or not to exercise, its discretionary authority (pursuant to section 170 of the Act) to require financial protection and government indemnity to be maintained by Duke Power Company and Commonwealth Edison Company in the situations discussed in this paper involves a policy question. Although the Commission can legally resolve this issue without any public comment, the staff believes that the Commission should publish in the Federal Register for a 30-day comment period a notice of its intent to extend Price-Anderson coverage to the two situations discussed in this paper. The staff believes that the public should be afforded an opportunity to comment on this action before it is taken and that the public comments may be useful to the Commission in arriving at its final decision. This will also serve to carve out this important policy question from a possible hearing as to the technical details of the indemnity agreement change as provided by 10 CFR § 140.9.

Recommendation

That the Commission:

(1) Authorize the Director, NRR, to approve these two requests for fuel storage if no significant adverse comments are received during the comment period. If significant adverse comments are received, however, the staff will make these comments known to the Commission.

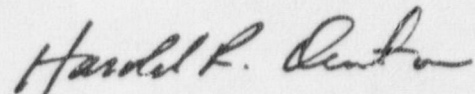
(2) Approve publication in the Federal Register of a notice of intent set forth in Attachment A to extend Price-Anderson coverage to the two situations discussed in this paper, and afford a thirty-day comment period.



(3) Note that NMSS and NRR will present to the Commission in a few months a study considering the question of whether the Commission should exercise its discretionary authority in requiring financial protection and indemnifying certain materials licensees.

Coordination:

The Office of Nuclear Material Safety and Safeguards concurs in the recommendations of this paper. The Executive Legal Director has no legal objection.



Harold R. Denton, Director  
Office of Nuclear Reactor  
Regulation

Attachment:

A - Draft Notice of Intent to  
Extend Price-Anderson Coverage

This paper is tentatively scheduled for consideration at an Open meeting during the Week of December 4, 1978. Please refer to the appropriate WEEKly Commission Schedule, when published, for a specific date and time.

DISTRIBUTION

Commissioners  
Commission Staff Offices  
Exec Dir for Operations  
Regional Offices  
Secretariat

NUCLEAR REGULATORY COMMISSION

[Docket Nos. 50-269, 50-270, 50-287, and 50-369]

DUKE POWER COMPANY

[Docket Nos. 50-237, 50-249, 50-254, and 50-265]

COMMONWEALTH EDISON COMPANY

Storage and Indemnification of Spent Reactor  
Fuel at a Reactor Site Different Than the  
One Where It Was Generated

Most operating reactor licensees have increased or are planning to increase, the capacity of their onsite spent fuel storage pools. In some instances where the capacity of the storage pools at the reactor site cannot be increased sufficiently to meet the licensees' needs, fuel storage may be sought at another location. One method of storing spent fuel away from the reactor from which it is discharged is to store it in the spent fuel pool at a reactor at another site.

The Commission has received two requests, one from Duke Power Company and the other from Commonwealth Edison Company, to authorize this type of fuel storage. The Duke Power request is for Commission authorization permitting Duke to store spent fuel discharged from its Oconee Units 1, 2 and 3 at its McGuire Unit 1. The second request, by Commonwealth Edison, seeks authority to transfer and store spent fuel among Dresden Units 2 and 3 and Quad-Cities Units 1 and 2. Both licensees are also

ATTACHMENT "A"

seeking Price-Anderson indemnity protection for all such storage of spent fuel at the distant reactor locations. The Commission considered a similar request by Carolina Power and Light Company in August, 1977. (See notices in the September 6, 1977 daily edition of the FEDERAL REGISTER at 42 F. R. 44615-44617.)

Under the Price-Anderson Act (§ 170 of the Atomic Energy Act of 1954, as amended, (the Act)), financial protection and government indemnity are mandatory for production and utilization facilities, such as reactors, licensed under § 103 and § 104 of the Act. This financial protection and indemnity covers the "licensed activity" which encompasses not only possession and operation of the reactor facility itself but also certain ancillary activities including (1) possession of the new fuel (containing special nuclear material) being stored on-site for use in the reactor and (2) on-site storage of spent fuel following irradiation at that reactor.

Possession of spent fuel away from the facility where it is generated, i.e., at a location where it is not used in connection with the operation of the facility, is not a part of the ancillary activity of possession and operation of the facility. Hence, possession of such spent fuel must be licensed under other provisions of the Act which authorize licenses for possession and use of the special nuclear and byproduct



material. After being transferred from the reactor site where it was generated to some other site, this spent fuel would not be subject to the mandatory indemnity requirements of the Act providing that the Commission require financial protection of and indemnify reactor (and other production and utilization facility) licensees. Accordingly, no indemnity protection automatically would be afforded spent fuel stored away from the facility where it is produced or used. To indemnify this spent fuel, the Commission must require such licensees to maintain financial protection and to be indemnified by exercising its discretionary authority under § 170 of the Act. This exercise of discretionary authority would result in treating spent fuel produced at one reactor site but stored at a different reactor site the same as spent fuel stored at the site of the reactor where it was produced. Thus, irradiated fuel generated by a reactor at one site whether stored by itself in the spent fuel pool of a reactor at a different site or commingled with the second reactor's irradiated fuel in that reactor's spent fuel pool would be covered by financial protection and indemnity.

Duke Power Company has requested Commission authorization to store spent fuel generated by Oconee reactor Units 1, 2, and 3 at McGuire Unit 1. This action would allow Duke to utilize existing storage space at McGuire. According to Duke's current projection of the predicted fuel burnup rates at Oconee, the first shipment of spent fuel to McGuire must occur in March 1979 if Duke is to maintain its desired full core discharge capability at the Oconee station. An operating license decision, however,

is expected to be made before that date. In view of these considerations, indemnification of the storage of Oconee spent fuel at McGuire would be authorized only when and if an operating license is issued by the NRC for McGuire Unit 1.

The second request, from Commonwealth Edison Company seeks amendment of the operating licenses and indemnity agreements for Dresden Units 2 and 3 and Quad-Cities Units 1 and 2 to permit spent fuel transfer and storage between the two sites. This inter-station fuel transfer and storage is stated by Commonwealth to be necessary both to postpone the loss of full core discharge capability at the Dresden site from 1979 to 1981 and to allow expansion of the Dresden fuel storage pool for the storage of Dresden spent fuel and possibly Quad-Cities spent fuel at a later date.

Both proposals to modify operating licenses and indemnity agreements are similar in that the spent fuel proposed to be stored at certain reactors will not have been produced at those reactors. The NRC believes that it would not be desirable to have a situation where spent fuel generated by one reactor and stored in the spent fuel pools of a second reactor at a different site would be unindemnified while the spent fuel produced by the second reactor and stored at the same site would be indemnified. If indemnity coverage were not extended to the spent fuel generated by the

first reactor but stored at the site of a second reactor and if an accident occurred involving the fuel storage pool it would be virtually impossible to determine whether indemnified or unindemnified spent fuel caused the damages.

The Commission's decision to exercise, or not to exercise, its discretionary authority (pursuant to section 170 of the Act) to require financial protection and government indemnity to be maintained by Duke Power Company and Commonwealth Edison Company in the situations discussed in this notice involves a policy question. Although the Commission could legally make this decision without requesting public comment, the Commission desires public comment on its proposed action to extend indemnity protection in the two situations discussed in this notice.

Should the Commission decide to exercise its discretionary indemnity authority and grant either or both requests, it will, pursuant to 10 CFR 140.9, publish a notice in the FEDERAL REGISTER of its intent to modify the indemnity agreements for the facilities involved. (See e.g., 42 F.R. 44617, September 6, 1977.) In response to a notice published pursuant to 10 CFR 140.9, the Commission will only consider comments pertaining to the implementation of the Commission's policy decision through the language proposed to modify the indemnity agreement(s). Comments addressing the policy issue set forth in this notice will not be entertained.