

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

12/6/78

In the Matter of COMMONWEALTH EDISON)	
)	
(Amendments to Operating License for)	Docket Nos. 50-237
Transportation of Spent Fuel between)	50-249
Dresden Nuclear Station and Quad)	50-254
Cities Nuclear Station))	50-265

STATE OF ILLINOIS STATEMENT OF CONTENTIONS

CONTENTIONS 1-9.

The State of Illinois incorporates by reference the attached contentions of the Natural Resources Defense Council and Citizens For A Better Environment, with the exception of contention 3(b)*.

CONTENTION 10.

The License application and supporting documents are fatally deficient in that they do not include any transportation studies or plans, therefore it is not possible to properly assess consequences. There should be a detailed description of at least: (1) the types of materials to be shipped; (2) quantities of materials to be shipped; (3) numbers of curies per shipment; (4) mode(s) of transportation;

* The State of Illinois has incorporated by reference Petitioners NRDC/CBE contentions in order to avoid unnecessary repetition of similar contentions and to present to the Atomic Safety and Licensing Board possible areas of consolidation. Each petitioner intends to independently develop each contention. The State of Illinois does not undertake to represent the interests of Petitioners NRDC/CBE in this proceeding.

(5) routing; (6) carrier, whether Commonwealth Edison or outside contractor; (7) estimated dose rates to drivers, motorists, bystanders; (8) emergency plans; (9) security plans; (10) any other information specifically required under NEPA (42 U.S.C. §4321 et seq.) or by the Council on Environmental Quality (40 C.F.R. 1500), the Department of Transportation, (49 CFR Parts 171-189), or the Nuclear Regulatory Commission (10 CFR Part 71), to make it possible to properly assess safety and environmental effects of the proposed transshipment.

CONTENTION 11.

Applicant's license application and supporting documents do not contain any information to show Applicant's intentions and abilities to conform with the various Department of Transportation regulations which have been designed to protect motorists or citizens living along the travel path. (See particularly 49 U.S.C. §1801; 49 C.F.R. 171-189; 46 C.F.R. 146; and 14 C.F.R. Part 103).

CONTENTION 12.

The Application and supporting documents do not supply sufficient information to assure the State that the Applicant and its agents will be in conformity with state laws governing transportation of hazardous materials: Ill. Rev. Stat. ch. 127 §1251 et seq.

A. The License application fails to provide information about the proposed transport system and emergency report system to be utilized in conjunction with it as required by the Illinois Hazardous Materials Transportation Act, Ill. Rev. Stat. ch. 127 §§1251, 1253, 1255, 1256 and 1257, therefore Petition cannot be assured that: the appropriate state agencies will have knowledge of the radioactive

materials shipment; motorists on the travel route will have appropriate warning; in case of accident the proper state and local agencies will be notified in the shortest period of time.

B. There is no discussion in the application as to the advisability of seeking a hearing before the Hazardous Materials Advisory Board to determine whether Applicant's shipment should be exempted from placarding under Ill. Rev. Stat. ch. 127 §1253 (b) because the risk of sabotage outweighs the positive gains of placarding.

CONTENTION 13.

The Application and supporting documents do not meet the requirements of 10 C.F.R. Part 71.

A. The license application does not specify the type of license being requested under Part 71.

B. The application does not meet the minimum requirements of 10 C.F.R. §71.51 to provide a description of a quality assurance program for the proposed transshipment nor does the Application discuss the procedures which will be utilized to meet the standards delineated in Appendix F of Part 71.

C. The license application does not fulfill the requirement of 10 C.F.R. Part 71, subpart B, §71.21 that applications for licenses or license amendments "shall include, for each proposed packaging design and method of transport, the following information in addition to any otherwise required:

(a) a package description as required by §71.22;

(b) a package evaluation as required by §71.23;

(c) an identification of the proposed program of quality assurance as required by §71.24;

(d) in the case of fissile material, an identification of the proposed fissile class.

D. There are no computations or computer simulations to indicate that criticality will not be reached during shipment (10 C.F.R. §71.33).

E. The application fails to identify the type of package and mode of transport therefore it is impossible to evaluate the effect of the transport environment on the nuclear safety of the packages (10 C.F.R. §71.37).

F. The application fails to identify the type of package and mode of transport therefore it is impossible to assess whether the spent fuel shipments will meet the standards for hypothetical accident conditions. (10 C.F.R. §71.36).

CONTENTION 14.

The license application and supporting documents are inadequate in that they fail to include any discussion or evaluation of the radiological effects of normal (accident free) transport.

"The principal unavoidable environmental effect (of transporting radioactive material is)... the population exposure resulting from normal transport of radioactive materials. Since the electromagnetic radiation emitted from a package cannot be reduced to zero by any finite quantity of shielding, the transport of radioactive materials will always result in some population exposure."

"Final Environmental Statement of the Transportation of Radioactive Materials By Air and other Modes" (FES) Dec. 1977, NUREG 0170, p. xxiv.

It is possible to quantify radiological environmental impacts and health effects as a function of certain input data (geographical area, routes, types of packaging) with the aid of a computer model such as METRAN, used by Sandia Laboratories in their study of radioactive materials transport through urban areas "Draft, Transport of Radionuclides in Urban Environs" May 1978, Sandia 77-1927.

The proposed license amendment should not be considered until the application has been supplemented with an adequate discussion of means by which the Applicant plans to assess radiological effects of its transshipment. In making its report Applicant should specify whether it based its computer program on threshold or continuous low dosage standards.

CONTENTION 15.

The license application and supporting documents are inadequate as they fail to discuss or evaluate the probability of accidents, types of possible accidents and effects of accidents.

According to the U.S. Department of Transportation there were 15 accidents in Illinois in 1977 involving vehicles engaged in the transport of nuclear materials. These accidents ranged from package handling errors, to radioactive material spillage, to collision and overturning of trucks carrying radioactive packages. The Sandia report 77-1927 states:

Accidents involving vehicles moving the radioactive material can damage packaging and result in dispersal of the radionuclides and subsequent inhalation by or direct exposure to surrounding population. Vehicular accidents can also damage or totally remove radiation shielding and thereby produce higher than normal exposure by penetrating radiation (Sandia, 77-1927 p. 16).

Nonradiological impacts in the form of health effects can also result since many of the materials being shipped are chemically toxic. (Sandia 77-1927, p. 15; Chapter 7 pp. 249-266).

The applicants supporting documents include a letter in which it is admitted that if shipments between stations should be undertaken "the possibility of a transportation accident will increase as a result of greater exposure." (Application, reference (a) G.A. Abrell letter to D.L. Ziemann dated April 23, 1976), yet no transport or accident probability study has been done.

The proposed license amendment should not be considered until the application has been supplemented with an accident analysis. The analysis should include at least an assessment of the probability of accidents and a quantification of both radiological and nonradiological impacts of credible accidents. (See Sandia 77-1927, p. 81 and Appendix E for examples of analytic models.)

CONTENTION 16.

The Application and supporting documents are inadequate in that there is no discussion of the economic impacts of transshipment and possible dispersal of radioactive materials e.g. effects on land use, decontamination costs, income loss, evacuation costs, consequences of inadequate insurance coverage.

CONTENTION 17.

The application and supporting documents are in error. §4.1. of the licensing report incorrectly states that the application raises no unresolved safety problems. The application is premised on the use of the spent fuel pools at Dresden 2 and 3 as storage

facilities for fuel from Dresden I and Quad Cities. The application makes no mention however of the application presently pending before the NRC to increase spent fuel storage capacity at Dresden 2 and 3 by installing Brooks and Perkins Stainless Steel Boral racks in the pools. NRC investigations have uncovered serious problems in the use of Brooks and Perkins racks at Monticello and Browns Ferry. These problems involve swelling of the racks to such a degree that fuel cannot be introduced. Extraction of fuel from racks which have become swollen may also prove to be a problem. The potential installation of similar racks at Dresden prior to the institution of transshipment creates a safety problem, the solution for which is yet to be found.

RESPECTFULLY SUBMITTED,

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In The Matter Of :
COMMONWEALTH EDISON CO., et al. :
(Amendments to Operating Licenses) : Docket Nos. 50-237
50-249
50-254
50-265

NATURAL RESOURCES DEFENSE COUNCIL
AND CITIZENS FOR A BETTER ENVIRONMENT'S
STATEMENT OF CONTENTIONS

Contention 1 - The proposed action violates the National Environmental Policy Act because it is a commitment to a program which precedes the completion of the required programmatic impact statements.

- a. NRC and DOE have announced a proposed program for storage of spent fuel away from the reactors where the spent fuel is generated and have agreed to prepare and are preparing programmatic impact statements under NEPA to evaluate that proposed action.
- b. Included among the options examined is consideration of transshipment of spent fuel between reactors as proposed here.
- c. Approval of this proposed action by applicant would permit the adoption of the transshipment option for it would forestall development of preferable alternative plans to meet the spent fuel storage program, particularly expansion of spent fuel storage at each plant site, and

by the application of the sunk cost doctrine (New England Coalition on Nuclear Pollution v. NRC, Dkt. Nos. 77-1219, 77-1306, 77-1342, 78-1013 (decided August 22, 1978), ___ F.2d ___ (1st Cir. 1978)) tend to foreclose the preferable options.

Contention 2 - Approval of the proposed actions would violate NEPA because it is a major federal action for which no impact statement has been prepared.

- a. The quantity of spent fuel to be moved, the number of casks, trucks and shipments required, the number of members of the public and workers which will be and could be exposed to radiation due to routine, accidental or intentional releases from handling and shipping spent fuel, the alleged dollar and environmental benefits of the proposed action over allowing the reactors to be shut down, the increased risks to the health and safety of the public living in the vicinity of the facilities and along the shipment route without any comparable increase in benefits to that public, the foreclosing of the environmentally preferable option of expanded storage of spent fuel at each plant site, and the long-term implications of another spent fuel storage half-measure which allows increasing nuclear wastes without a solution and without progress toward a solution for the permanent and safe storage of such waste are all factors which make approval of the proposed action a major federal action with significant impact on the environment.

Contention 3 - There has been no adequate analysis of the alternatives to the proposed action.

- a. The alternative of using any of the reactors as a last on, first off, plant to reduce spent fuel discharge requirements is not considered.
- b. There are not technological or economic disadvantages to expanding spent fuel pool capacity at each plant site if it is assumed that all spent fuel will be stored there until it is shipped to a legally approved permanent storage facility for nuclear wastes. This option will reduce the risks of routine, accidental and intentional releases of radioactivity.
- c. Applicant has not fully utilized all of the potential it has to store spent fuel in existing pools at each plant.

Contention 4 - The proposed action increases the exposure to radiation of workers and the general public beyond what is ALARA.

- a. ALARA can be achieved by on-site expansion of spent fuel pool storage capacity at each plant site, including building another spent fuel pool.
- b. The residual health risks which remain even if the present NRC regulations on exposures to workers are met are major costs of the proposed action which tip the balance against the proposed action. The health hazards include increased genetic mutations which affect the entire population directly and increased somatic effects which

affect the workers directly and the general population indirectly as lost productivity, higher health costs and the loss of family or friends. Recent evidence by Drs. Mancuso and Bross indicates that the dangers from low levels of radiation are greater than originally assumed by the BEIR Committee. The NRC regulations set levels for workers 10 times higher than acceptable even if the BEIR Committee calculation of health effects is used. See Natural Resources Defense Council Petition to Amend 10 CFR 20.101 Exposure of Individuals to Radiation in Restricted Areas, October 29, 1975, and Supplement to Petition and Request for Hearings, November 4, 1977.

Contention 5 - Applicant overstates the need for action at this time by using the one-core discharge capacity reserve standard as if it were a requirement where in fact it is not a requirement of NRC regulations.

- a. Either applicant should be bound to comply with the one-core discharge capacity standard or it should have to demonstrate on a cost/benefit basis that holding that capability is more valuable than the costs of shipment off-site of one core of spent fuel.
- b. Numerous utilities now are in violation of this standard. See ERDA 77-25, p. 7; Spent Fuel Storage Study (1976-1986) prepared by AIF (April 1977), p. 11.

Contention 6 - Applicant has failed to disclose any information sufficient to determine whether shipment of spent fuel between the

plant sites will be vulnerable to sabotage, hijacking or other malevolent acts and whether this represents a serious risk to public health and safety.

- a. A credible threat of an attack against such a shipment would be 3 insiders and 15 outsiders, the latter armed with sophisticated rapid fire automatic weapons, explosives, large shell mortars and armored vehicles.
- b. There is no known basis for assuring detection of a threat of this size until it has materialized.
- c. Unless applicant is taking safety precautions far beyond those routinely used in the nuclear industry, it will be unable to prevent a malevolent act involving spent fuel in transit.
- d. A successful malevolent act directed against a spent fuel shipment could expose thousands of persons to fatal levels of radiation, could severely pollute water supplies and land areas, force long-term evacuation of major areas and create a threat of all these events unless certain unacceptable political and/or other demands are met.

Contention 7 - The application provides insufficient information for consideration of the proposed action.

- a. There is no ER.
- B. There is no analysis of additional emergency planning required by the transportation of spent fuel between the reactor sites.

Contention 8 - The proposed action violates the standards for consideration of proposed spent fuel handling prior to completion of the GEIS on spent fuel handling.

- a. The proposed action has no utility unless it is assumed that in the near future an AFR will be built to accommodate spent fuel from the reactors. Thus the proposed action will tend to increase pressure for such action.
- b. The proposed action will tend to foreclose the option of expanding spent fuel storage capacity at each plant site to handle their own spent fuel by committing economic resources and time to a measure whose own utility is as a holding action pending construction of an AFR.

Contention 9 - The alleged need for immediate action on the proposal is grossly overstated and no additional spent fuel storage space is required prior to the middle 1980s at the earliest.

- a. Expansion of spent fuel capacity at Dresden was found by the Staff to be sufficient to assure full core discharge capability through 1984 and normal refueling through 1987 for the Dresden units without transshipment. Environmental Impact Appraisal Relating to Modification To The Spent Fuel Pool (Jan. 30, 1978) p. 3.
- b. Expansion of spent fuel capacity at Quad Cities was found by the Staff to be sufficient to assure full core discharge capability through 1985 and normal refueling through 1988 for the Quad Cities units without transshipment. Environmental Impact Appraisal Relating to

Modification To The Spent Fuel Pool (Jan. 30, 1978) p. 3.

Respectfully submitted,

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Dated: December 6, 1978

BEFORE THE NUCLEAR REGULATORY
COMMISSION OF THE UNITED STATES OF AMERICA

A F F I D A V I T

I, SUSAN N. SEKULER, an attorney, hereby certify the following in support of the foregoing Petitioner's Contentions.

1. That I am an Assistant Attorney General with the Environmental Control Division of the Office of the Attorney General of Illinois;

2. That I am of counsel for the State of Illinois in the matter of Commonwealth Edison Co., Docket Nos. 50-237/249/254/265.

3. That all facts alleged in the Petitioner's Contentions attached hereto are true to the best of my knowledge and belief.

SUSAN N. SEKULER

SUBSCRIBED AND SWORN TO
BEFORE ME THIS 29th DAY
OF DECEMBER, 1978.

NOTARY PUBLIC

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF COMMONWEALTH)	
EDISON CO. Quad Cities Station,) Docket Nos. 50-237	
Units 1 and 2; Dresden Station,) 50-249	
Units 2 and 3) 50-254	
) 50-265	
Amendments to Facility)	
Operating License Nos.)	
DPR-19, DPR-25, DPR-29)	
and DPR-30)	

CERTIFICATE OF SERVICE

I, SUSAN N. SEKULER, hereby certify that I have this 29th day of December, 1978 served copies of the foregoing Petitioner's Contentions on each of the following persons by causing same to be deposited in envelopes, addressed to said persons, first class, postage prepaid, and deposited with the U.S. Postal Service at 160 North LaSalle Street, Chicago, Illinois 60601.

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