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August 23, 1968

Mr. Herbert A. Howard
Tulip Tree House, Apt. 1114
Indiana University
Bloomington, Indiana 47401

Dear Mr. Howard:

Dr. Zabel has asked that I reply to your inquiry of July 31, 1968.

The phrase "undue risk" has its origin in 10 CFR Part 50 of the Atomic Energy Commission's regulations, particularly Section 50.53 which sets forth certain issues upon which the Commission must make findings before a provisional construction permit for a production or utilization facility may be issued. Although there is no formal definition of the phrase "undue risk" in the Commission's regulations, a recent memorandum prepared by the regulatory staff of the Commission, at the request of an atomic safety and licensing board, in a proceeding involving the application of the Public Service Company of Colorado for a provisional construction permit to construct the Fort St. Vrain Nuclear Generating Station provides guidance as to its meaning. A copy of this memorandum is enclosed.

Sincerely yours,

ORIGINAL SIGNED BY
R. F. FRALEY

Raymond F. Fraley
Executive Secretary

Enclosure:
As stated.

UNITED STATES OF AMERICA

RECEIVED

ATOMIC ENERGY COMMISSION

1968 APR 21 AM 10 09

In the Matter of
PUBLIC SERVICE COMPANY
OF COLORADO

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Docket No. 30-267
COM. COMM.
COMMITTEE ON
SAFEGUARDS

AEC REGULATORY STAFF'S RESPONSE TO BOARD'S QUESTION
CONCERNING MEANING OF "UNDUE RISK"

During this proceeding the Board asked for comments from the parties concerning the meaning of the phrase "undue risk". That phrase appears in issue number 1.(d) prescribed by the Commission in its notice of hearing for consideration in this proceeding. Issue number 1.(d) reads as follows: "whether ... there is reasonable assurance that ... (ii) taking into consideration the site criteria contained in Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public."

The origin of phrase in question is Part 50 of the Commission's regulations, particularly Section 50.35, which lists the issues upon which the Commission must make a finding in order to issue a provisional construction permit. A proper definition of undue risk in the context in which it is used requires an understanding of the phrase "reasonable assurance". The Commission in its final decision in the PRDC case adopted the definition of "reasonable

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assurance" set forth in Great Atlantic & Pacific Tea Co. v. Hughes, 53 Ohio App. 255, 4 N.E. 2d 700 (1935). In that case, the court said "reasonable assurance means reasonable probability, established under the particular circumstances of the case in good faith and in the exercise of sound discretion and expert judgment."

While the phrase "undue risk" as used in the regulations has not been defined by the Commission, there are guideposts to its meaning in various Commission decisions and actions.

It is clear that the phrase does not mean the absence of all risk -- absolute safety. This is implicit in the words themselves -- "without undue risk" rather than simply "without risk". Safety in everyday life does not mean absolute freedom from injury or risk. As the Commission stated In the Matter of Department of Water and Power of the City of Los Angeles, 3 AEC 179, 185 (1967):

Both the staff and the applicant have expressed concern that the Board, in reaching its determination, has converted our standard of "reasonable assurance" of no "undue risk" into one of assurance of absolute safety [B]oth our statute and implementing regulations show that such an absolute guarantee was never contemplated and that "the concept of reasonable assurances of safety must be sensibly, though severely applied. (In the Matter of Power Reactor Development Company, 1 AEC 65, 73; see also 1 AEC 128, 147.)."

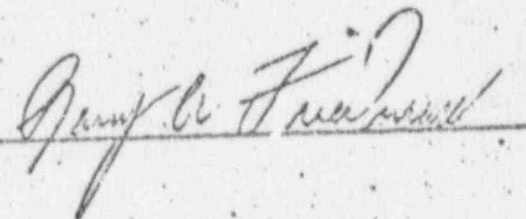
The benefits of the peaceful uses of nuclear energy, and in particular the benefits of the generation of electric power by the use of nuclear energy, have been recognized by the Congress of the United States in the enactment of the Atomic Energy Act of 1954. The Act authorized the use of nuclear energy by private individuals under such safety criteria and standards as the AEC deems necessary to protect the health and safety of the public.

Pursuant to the Act, the AEC has issued regulations under which nuclear power plants may be operated. In Part 20 of its regulations, the Commission has established standards for protection against radiation hazards during normal operations of the reactor facilities licensed by the Commission under Part 50. In Part 100, the Commission has established general guides ("reference values") to be used in the evaluation of reactor sites with respect to potential reactor accidents of exceedingly low probability of occurrence and low risk of public exposure to radiation. In effect the Commission, under its broad grant of authority from Congress to govern the safe use of nuclear energy, has thereby set the standards for the calculation and the acceptable limits of risk under which nuclear power plants may be operated. In so doing, it has, in effect, defined undue risk to public health and safety.

In Section 100.11, a method of determining the exclusion area, low population zone, and population center distance from a nuclear power plant, is described based upon an assumed fission product release resulting from a major accident which would cause potential hazards not exceeded by those from any accident considered credible. Under this regulation a so-called "maximum credible accident" for a particular facility can be "identified". The guides of Part 100 have been incorporated into Part 50 in Section 50.35(a) in that part of the regulations which state "taking into consideration the site criteria contained in Part 100, the proposed facility can be constructed and operated at the proposed location without undue risk to the health and safety of the public." This, of course, is also the language of issue number 1.(d), in this proceeding.

In the judgment of the AEC regulatory staff, the evidence which has been presented in this proceeding clearly supports an affirmative conclusion with respect to this issue.

Respectfully submitted,



Dated at Bethesda, Maryland,
this 15th day of August, 1968.