



UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON 25, D. C.

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Dr. C. Rogers McCullough, Chairman  
Advisory Committee on Reactor Safeguards  
U. S. Atomic Energy Commission  
Washington 25, D. C.

Dear Dr. McCullough:

This replies to your letter of December 27, 1957, containing a proposed definition of research reactors and testing reactors as developed by the Advisory Committee at its third meeting. Based upon our review of the Committee's proposed definition, I believe that we are in substantial agreement as to the basic elements such a definition should contain. It is our view, however, that as the definition is for regulatory purposes, we should avoid the use of indefinite terms such as "large capsules" and, further, that we should describe the characteristics of the defined reactor in terms of the applicant's proposed operation rather than in terms of what the reactor is capable of being used for. In the latter connection, it should be noted that if a given reactor, as originally designed, should not come within the definition, but is later modified in such way as to bring it within the definition, the statutory requirements and procedures applicable to testing reactors would, of course, then come into play.

With the foregoing points in mind, we have developed the following definition which includes the elements contained in our original proposed definition, as well as those which the Committee recommended be added:

"Any research or testing reactor, for which license application is made under section 104c of the Act, will be deemed a testing facility for purposes of sections 182b and 189a of the Atomic Energy Act of 1954, as amended, when it has the following characteristics:

- (1) a thermal power level in excess of 10 megawatts; or
- (2) a thermal power level in excess of 1 megawatt and which is to contain:

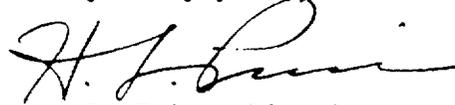
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- (a) a circulating loop through the core in which the applicant proposes to conduct fueled experiments; or
- (b) a liquid fuel loading; or
- (c) an experimental facility in the core in excess of 16 square inches in cross-section.

This definition is one which we believe will be capable of easy application in a regulatory context. As such, it will enable the public to know what constitutes a testing reactor requiring the Committee's review and as to which the Commission is required to hold a hearing. Obviously, there will be other reactor projects not falling within the definition on which we will nevertheless want the Committee's advice. We believe, however, that the definition as stated above will include most reactors which are likely to involve the more significant hazards considerations. We also recognize the possibility that while the definition may cover many reactors which involve fairly routine hazards questions, a few reactors involving more significant questions may not be covered. As to the latter, we, of course, will want the Committee's advice even though the reactor may not fall within the definition.

I will appreciate it very much if the Advisory Committee would review the definition at its March meeting and let us have the benefit of its comments.

Very truly yours,



H. L. Price, Director  
Division of Licensing and Regulation

DEC 27 1957

Mr. H. L. Price, Director  
Division of Licensing and Regulation  
U. S. Atomic Energy Commission  
Washington 25, D. C.

Subj: Definition of a "Testing Facility"

Dear Mr. Price:

In reply to your letter of November 14, 1957 and the discussion at the second meeting of the Advisory Committee on Reactor Safeguards on the subject of the definition of a "testing facility", the Committee has considered the matter and at its third meeting recommended unanimously the following definitions to differentiate between Research and Testing Reactors.

1. Any reactor one megawatt of thermal power or less will be considered a Research Reactor.
2. Any reactor over 10 megawatts of thermal power will be considered a Testing Reactor.
3. Reactors with thermal power levels between one megawatt up to and including 10 megawatts will be considered as:
  - a. a Research Reactor when the core contains no experimental facilities,
  - b. a Testing Reactor when the core contains spaces available for loops or large capsules or if experimental fuel assemblies may be inserted, or
  - c. a Testing Reactor if the facility is a fluid fuel reactor having a thermal power capacity in excess of one megawatt.

Sincerely,

C. Rogers McCullough, Chairman  
Advisory Committee on Reactor Safeguards

cc: L.L. Strauss, Chairman, AEC  
K.E. Fields, CH, AEC

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