W. B. McCool, Secretary

January 26, 1961

H. L. Price

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

REACTOR SITE CRITERIA - STAFF PAPER

It is requested that the attached action paper on the above subject be circulated for Commission consideration when approved by the General Manager.

Enclosure:
As above

Hand-carried by HLP.
1/26/61

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OFFICE ▶	DLR HLPrice/mm					
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ATOMIC ENERGY COMMISSION

REACTOR SITE CRITERIA

Report to the General Manager by the Director, Division of Licensing and Regulation

PUBLICATION FOR PUBLIC COMMENT

THE PROBLEM

1. To consider the [adoption] of proposed site criteria.

SUMMARY

2. This paper supplements and modifies AEC-R 2/19 which contained a proposed regulation establishing reactor site criteria. Copies of AEC-R 2/19 were furnished to the Advisory Committee on Reactor Safeguards and the subject was discussed by the Commission with the ACRS on January ____ 1960. In that meeting some of the members of the Committee expressed objections to various provisions of the regulation as a result of which the Commission instructed the staff to attempt to work out a compromise with the ACRS on this subject.

3. On Saturday, January 14, the Director, Division of Licensing and Regulation, and other staff representatives met with the ACRS and agreed upon the basis for a compromise.

4. On Tuesday, January 17, the Director, Division of Licensing and Regulation, and staff members met with Dr. T. J. Thompson, Chairman, ACRS, and Dr. Franklin A. Gifford, Member, ACRS, and prepared a draft of criteria based on the compromise previously agreed upon. A copy of the compromise draft is attached as Appendix "A".[1]

1. The attachment contains some minor editorial improvements which do not affect the form or substance of the compromise draft worked out with Dr. Thompson. These will be checked out with Dr. Thompson.

5. Dr. Thompson is now in the process of seeking the concurrence of members of the ACRS in this draft of criteria.

6. The important differences between the draft criteria proposed in AEC-R 2/19 and the compromise draft now proposed by this paper are as follows:

a. The present draft is essentially a combination of the portions of the ACRS letter of December 13, 1960, which were emphasized at the ACRS meeting with the Commissioners, and the regulations previously proposed by the staff, after ACRS consultation, in AEC-R 2/19, with some significant modifications.

b. The words "rules" and "regulations" have been changed to "guides" wherever they appear, ~~so that the criteria do not purport to be rules or regulations.~~

c. Dr. Thompson felt that the Committee would insist on a statement to the effect that these criteria are primarily applicable to reactors on which experience has been gained but may be applied, with greater conservatism, to other reactors. A recognition of this principle is contained in the present draft.

d. The statement of considerations contains a statement of three general concepts considered important by the ACRS; first, the objective of avoiding serious injury to individuals off-site if an unlikely, but still credible, accident should occur[2] ~~(a "maximum credible accident")~~; second, the objective that even in a more serious accident (not normally considered credible), the numbers of people killed should not be catastrophic; and third, the recognition of the importance of total population dose which will be given further study in an effort to develop a criterion on this point. Meanwhile, to give recognition to this third objective ~~principle~~, the proposed guide states that in some instances the

2. This would include the so-called "maximum credible accident" and any lesser accident.

distance to very large cities may need to be greater than the distances stated in the guide.

e. The nomenclature on several points has been modified, i.e. the "evacuation area" around the reactor site has been changed to "low population zone", and the use of the term "bench mark" to identify the results of initial calculation of various distances around the reactor has been eliminated. However, the table of distances and the basis for calculating those distances for a standardized reactor as outlined in Annex 1 to Appendix "A" have been preserved as a suggested initial step in the determination of the exclusion area, the low population zone, and the population center distances.

f. The concept of maximum credible accident has been eliminated but the reference to the assumed fission product release both in the guides and in the table attached will adequately serve the same purpose.

7. Parts of the previous draft contained in AEC-R 2/19 have been reorganized and edited to make the criteria more flexible, in consonance with the philosophy of guides rather than regulations, but the essential criteria of the previous draft have been preserved.

8. It should be noted that the guides apply to site reactors on

STAFF JUDGMENTS

9. The Division of Biology and Medicine, the Division of Reactor Development and the Office of General Counsel, ~~and the Office of Health and Safety~~ concur in the recommendations of this paper.

RECOMMENDATIONS

10. ~~9.~~ The General Manager recommends that the Atomic Energy [illegible]

a. Approve publication [illegible] criteria, attached as Appendix "A".

b. Note that the action recommended in (a) above should be deferred until the Chairman, ACRS, has had the opportunity to obtain the comments of the full Committee on Appendix "A".

c. Note that a copy of the proposed criteria will be sent to the Joint Committee on Atomic Energy.

d. Note that an appropriate news release will be issued.

e. Note that this paper is unclassified.