

MAY 9 1961

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Idaho Operations Office  
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Division of Licensing and Regulation

COMMENTS ON PROPOSED REACTOR SITE CRITERIA

We have reviewed with considerable interest the comments on the proposed site criteria guides contained in your memo of March 27, 1961 to A. R. Inedecke. Your interest and efforts in formulating these comments are very much appreciated.

All of the comments discuss considerations which have been examined in development of the guides. We are concerned, however, regarding the apparent disagreement with the guides indicated by the third paragraph of your memo which states as follows:

"We believe that the proposed regulation overemphasizes the dose due to iodine. ORNL studies have shown that as the operating time of a reactor increases, the dose to the bone and lung will be greater than the thyroid dose. Specifically, if the operating time of the reactor exceeds 45 days, the dose to the bone from inhaling one microcurie of the isotopic mixture expected from an accident will exceed the dose to the thyroid. Similarly, after 85 days of operating time, the lung dose will exceed the thyroid dose. In view of this, the bone exposure becomes the criteria controlling the hazards. Therefore, since power reactors are being designed for very long operational life, emphasis should be placed on the bone and lung doses and not on the thyroid dose."

Doses to body organs due to inhalation of varying mixtures of fission products were carefully considered during the development of the guides. Our information in this regard indicated that the dose which would be received by the thyroid as a result of any credible accident could be safely used as a basis for estimating safe distance requirements from a reactor.

(continued)

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On the basis of information available to us, we have concluded that in all practical situations likely to be encountered, and under circumstances such as those described in the guides, the thyroid exposure will be controlling and not the bone exposure. Because you state just the opposite is to be expected, we would be most interested in receiving for review the analyses which served as a basis for your comments and conclusions.

*MC-1-61*

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