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The Penn. State University
University Park

Pa., 16802

13 July 1981

Director, Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C.
20555



Dear Director:

Attached are my comments on the Draft Environmental Statement on the operation of the Waterford Station, Unit 3, NUREG-0779. Please note that the opinions and calculations are my own, and not necessarily those of the Pennsylvania State University, which affiliation is given for identification purposes only.

I should note that I requested a copy of the Draft from Document Control on 23 June, but did not receive it until 10 July. It is particularly distressing to see the discussion of accidents in section 5.9.2 without the kind of peer review that the NRC admitted was necessary as related to WASH-1400 in its January 18, 1979 statement: "NRC Statement on Risk Assessment and the Reactor Safety Study Report in light of the Risk Assessment Review Group Report". (Page 3).

I hope these comments are useful in developing the Final EIS as is required by NEPA.

Sincerely,

William A. Lochstet

W.A. Lochstet, Ph.D.

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The Long Term Health Consequences of
Waterford Station, Unit 3

by

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July 1981

The Nuclear Regulatory Commission (NRC) has attempted to evaluate the health consequences of the operation of the Waterford Steam Electric Station, Unit 3 in its draft EIS, NUREG-0779. The health consequences of radon-222 emissions from Uranium mill tailings and open pit mines are evaluated for the first 1000 years from the present in section 5.9.3. This evaluation suggests that radon emissions increase with time, and give no suggestion that they will decrease or stop after 1000 years.

The fact is that these radon emissions are governed by the 80,000 year half life of thorium-230 and the 4.5 billion year half life of uranium-238. The thorium situation has been discussed in detail by Pohl (Search, 7(5),345-350, August 1976). The impact of radon from the uranium-238 was recognized in GESMO (NUREG#0002, of 1976) and is discussed in the Final Environmental Statement for the Split Rock Mill (NUREG-0639, at Pages A-57 to A-60). The result is that the activity necessary to supply one 1000 MWe plant at 80 % capacity factor with fuel for one year leaves behind mill tailings that are estimated to cause 200,000 deaths due to radon-222 emissions. This is much more than the consequences listed in the Draft, NUREG-0779.

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