



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Branch of Western Environmental Geology
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November 9, 1979

Mr. Edward O'Donnell
U.S. Nuclear Reg. Comm.
Washington, D.C. 20555

Dear Mr. O'Donnell:

I received from you about a week ago a copy of the manuscript on "Characterization and classification of geologic faults in the Appalachian foldbelt," which was prepared for the Commission by a panel of eight geologists.

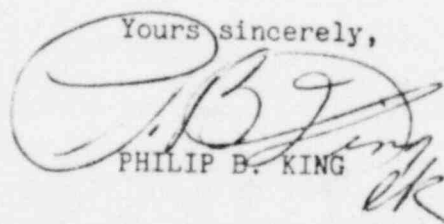
I have read through the manuscript carefully, and my comments are rather minor. The subdivision of the faults into twelve classes seems good in general. My own reservation would be that some of the classes are not too different from others, and that the rigidity of classification as in some cases is more apparent than real. Some of the types of faults are clearly of more significant than others in the problem of nuclear test siting. Some of the fault classes (notably among classes 1 through 8) are ancient breaks, long since dead, and some of them have subsequently been deformed, so that they can no longer move.

More important in the problem of nuclear test siting are classes 9 through 12. Many of these are ancient also, but there is a greater possibility that they might be reactivated, to at least a slight extent. I therefore read the discussion of these with greatest care.

I looked with particular care at the discussion of the Brevard fault zone, the Ramapo fault system, and the faults with demonstrable late Mesozoic and Cenozoic movement. The first two have had long histories of diverse movements, which might possibly recur again. The last group is the most subtle, as the observed displacements are mostly small, and have only been detected by detailed modern studies. Clearly, however, they offer the most problems for nuclear siting and deserve the most study for the problem in hand.

For its purpose, the manuscript is excellent and thorough, and its coverage of the published literature is most impressive. I recommend it highly.

Yours sincerely,


PHILIP B. KING

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