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TENNESSEE VALLEY AUTHORITY
400 Chestnut Street Tower II

August 22, 1980

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Denton:

In the Matter of the Application of) Docket Nos. STN 50-553
Tennessee Valley Authority) STN 50-554

In a July 29, 1980, telephone conversation with the NRC geologist, Dick McMullen, notification was made of discovery of additional faults at our Phipps Bend Nuclear Plant in the area of the unit 1 control and diesel generator buildings. Enclosed is a detailed description of these features which was provided in the July 29, 1980, telephone conversation.

We do not consider this minor fault to be capable within the meaning of Appendix A to 10 CFR Part 100.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills, Manager
Nuclear Regulation and Safety

Enclosure

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SEND Pictures to:
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8009040484

PHIPPS BEND NUCLEAR PLANT

Fault Zone In The Rock Foundation For The Unit 1 Control And Diesel Generator (Division 1) Buildings

Final excavation for the unit 1 control and diesel generator (division 1) buildings has exposed a series of reverse and thrust faults near the intersection of the two buildings. The faults are described as Fault 23, Fault Zone 24, and Fault 25. (See attached photographs.)

Fault 23, which intersects station W 1+33 at station N 0+31.5, extends from the west wall of the fuel building eastward, across the excavation (see attached map). The fault, which strikes N. 40° E. and dips 84° SE., truncates the south limb of an overturned anticline. The fault plane is defined by a tight calcite-filled fracture that displays minimal deformation of adjacent beds.

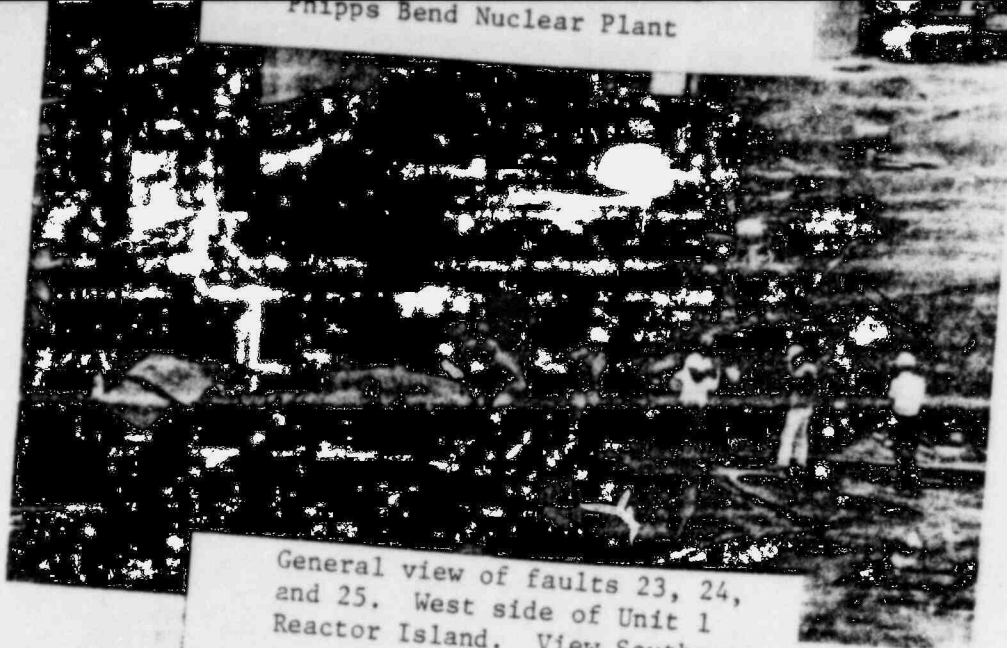
Fault Zone 24 consists of interconnecting thrust and reverse faults which truncate the north limb of a syncline. The thrust fault, which intersects station W 1+33 at station N 0+18.5, is vertical and strikes N. 49° E. This fault, defined by a tight calcite-filled fracture showing a minimum amount of deformation of adjacent beds, truncates the north limb of a syncline. At stations N 0+08 and W 1+33, a reverse fault strikes N. 35° E., dips 70° SE., and intersects the axis of a syncline. This reverse fault is defined by a tight calcite-filled fracture which shows little deformation of adjacent beds.

Fault 25 is a thrust fault which intersects station S 0+06 at station W 0+85. This fault dips 33° NW. in the north section and 6° SE. in the south

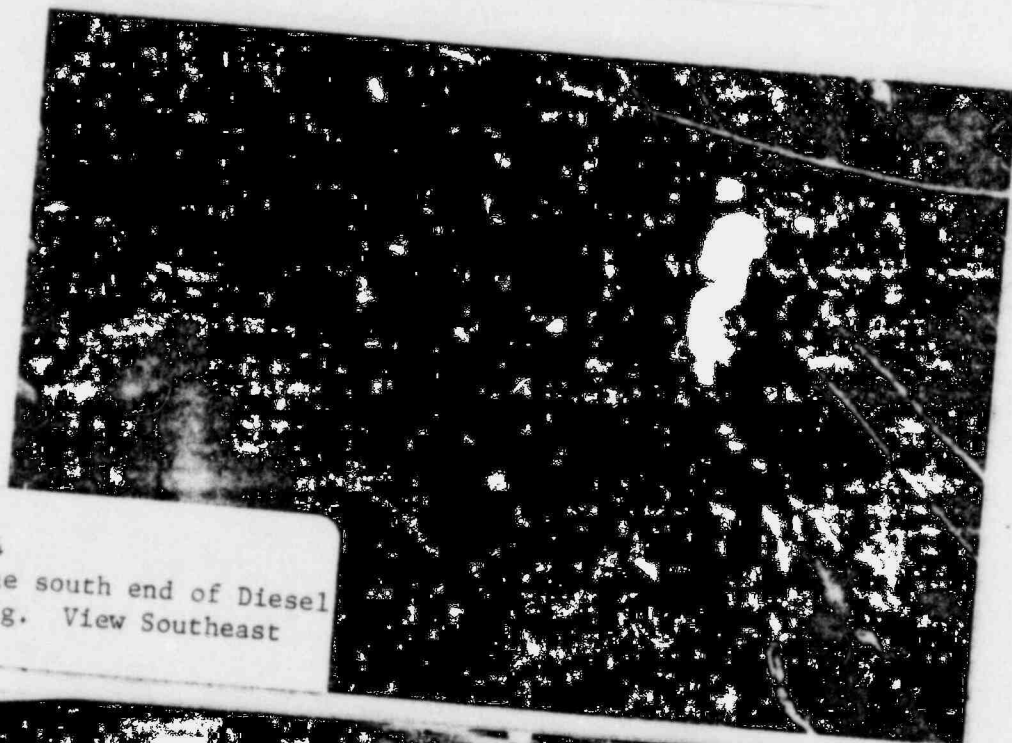
section, forming an anticlinal pattern. The fault plane, which strikes N. 51° E., is defined by a weathered zone 1 to 3 inches wide with little deformation of adjacent beds.

These are typical faults for the immediate area of the Phipps Bend Nuclear Plant, and represent a continuation of faults already reported to NRC (Fault 3, May 8, 1979).

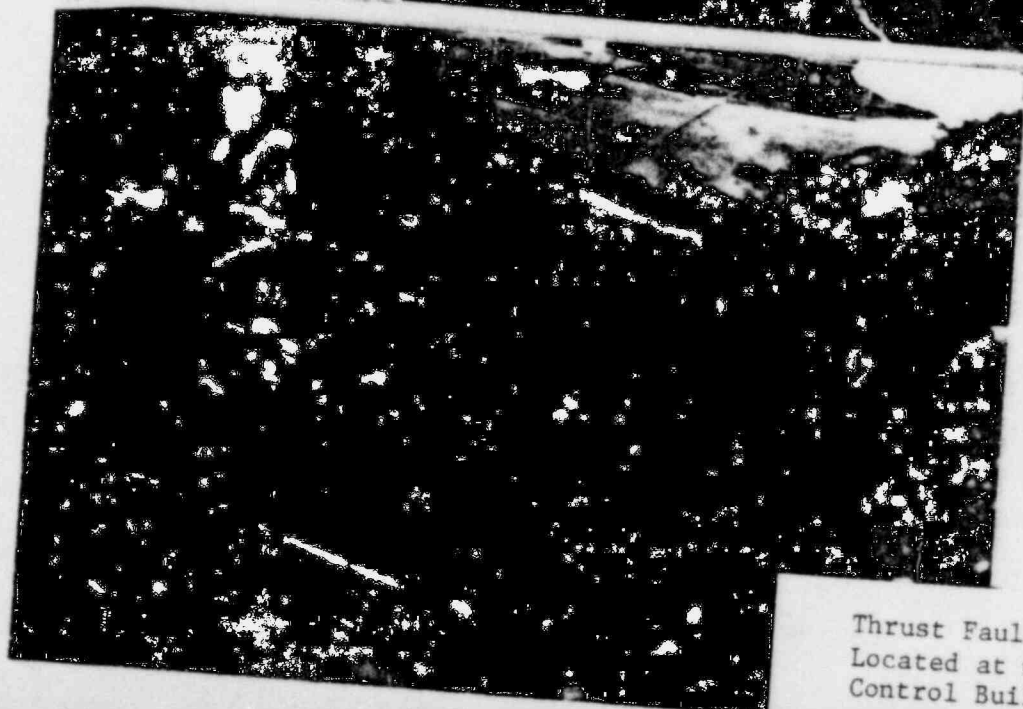
These faults were formed by stress relief due to tectonic pressure from the northwest and southeast during formation of the Saltville Fault Family (250 mybp). Having been stable for approximately 250 million years, these faults are not considered to be capable of producing ground offsets or generating earthquakes. Therefore, we do not classify them as capable faults, within the meaning of Appendix A to 10 CFR part 100.



General view of faults 23, 24, and 25. West side of Unit 1 Reactor Island. View Southeast



Fault Zone 24
Located in the south end of Diesel Generator Bldg. View Southeast



Thrust Fault 25
Located at north end of Unit 1 Control Building. View Southeast