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SUBJECT: Forwards response to Geosciences Branch 810722 request for
 addl info. Five oversized figures encl. Aperture cards are
 available in POR.

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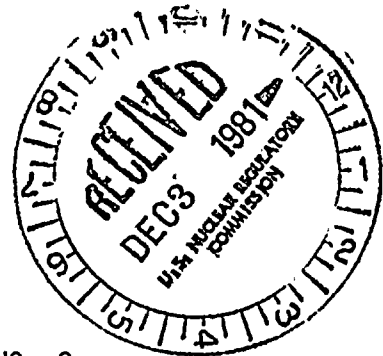
November 18, 1981

G02-81-474

SS-L-02-CDT-81-096

Docket No. 50-397

Mr. A. Schwencer
Licensing Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555



Dear Mr. Schwencer:

Subject: SUPPLY SYSTEM NUCLEAR PROJECT NO. 2
GEOSCIENCES BRANCH QUESTIONS

Reference: Letter, R.L. Tedesco to R.L. Ferguson,
"WNP-2 FSAR - Request For Additional
Information", dated July 22, 1981

Enclosed are sixty (60) copies of NRC Question 361.015 which was trans-
mitted to the Supply System by the reference letter. This question
will be incorporated into the next FSAR amendment.

Very truly yours,

A handwritten signature in cursive script that reads 'G. D. Bouchey'.

G. D. Bouchey
Deputy Director, Safety & Security

GDB/CDT/jca
Enclosures

cc: R Auluck - NRC
EF Beckett - NPI
WS Chin - BPA
OK Earle - B&R RO
J Plunkett - NUS
NS Reynolds - D&L
AD Toth - NRC Site
WNP-2 Files

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361.15

The seismic reflection data from WNP-2 are potentially significant for gaining an understanding of the geological structure near WNP-2. Present, interpret and discuss the lines relevant to the site and especially lines 1 and 2 shown in Figure D-1 in the Rockwell Hanford Report (RHO-BWI-ST-4).

RESPONSE

Seismic reflection data (Figure 361.15-1) on the Hanford Reservation were acquired in 1979 and 1980 in conjunction with the proposed siting of a nuclear waste repository (Myers and Price, 1979) and are presented on Figures 361.15-2, -3, -4 and -5. Data were acquired by Seismograph service Corporation under contract to Rockwell Hanford Company for the Department of Energy using a standard vibroseis technique. Apparently, because of the specific interest in the basalts at a depth of approximately 1 to 2 kilometers, sweep length was limited to 10 seconds at 30 to 120 hertz input. The net result was data with penetration limited to about 1 second (2 to 3 kilometers) within the basalt sequence. The data that were recorded are of marginal quality. No continuous reflectors are evident, although a zone of discontinuous reflectors can be seen locally at the approximate Ringold sedimentary and basalt interface zone. No reliable structural interpretation appears to be possible because this interface zone is shallow (occurring at an average depth of less than 150 meters below the surface through the Hanford Reservation) and is known to have significant lateral velocity variations (including velocity inversions). In addition, these reflectors were oftentimes obliterated during processing by normal move out, stacking corrections and filtering. For example, where line 2 crosses the Gable Mountain structure over its south-east extension, only the gross shape of the anticline could be discerned. However, except for the Gable Mountain structure, no other features indicative of significant geologic structure could be seen on any of the seismic reflection lines. On lines 1 and 2, around the WNP-2 and WNP-1/4 sites, there appears to be no correlation of the reflector data with any geologic features that have been identified from the borehole or geophysical data.

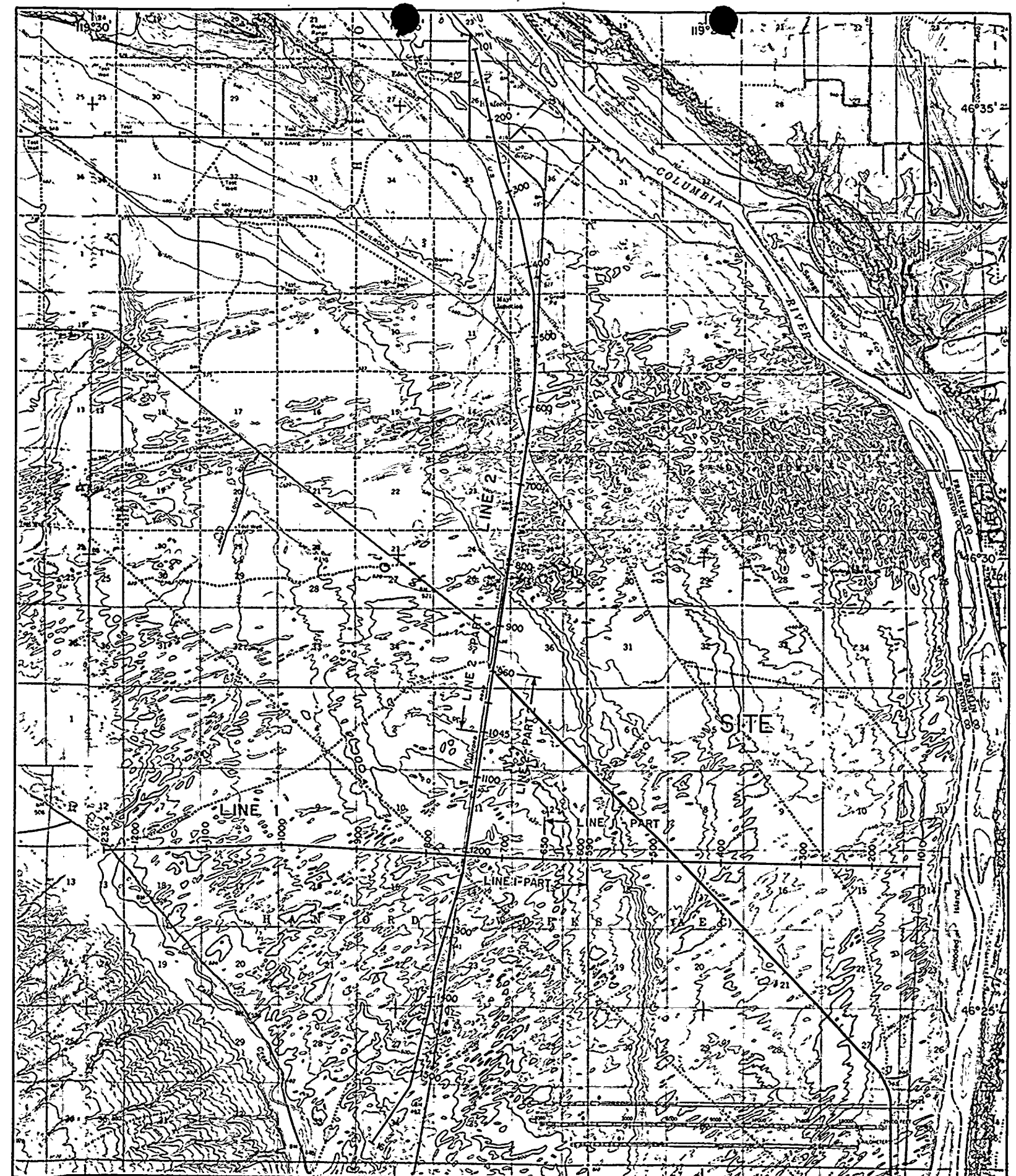
A detailed evaluation of one portion of line 2, west of the FFTF site, was made (Figure 361.15-1). A review of the processed records and correlation with existing boring and seismic refraction profile information disclosed that the seismic reflection data in their present form are not suitable for a reliable interpretation. In some instances, the reflector appears to be the surface of basalt and correlates with refraction data and/or boring logs. In other instances, the reflector appears to correlate with materials at shallower depths, such as a cemented horizon in the Ringold Formation whose velocity determined from refraction is about 10,000 ft/sec, as contrasted with a velocity value of 16,000 ft/sec for the basalt.

REFERENCES

Myers and Price, 1979, Geologic Studies of the Columbia Plateau, A Status Report, Rockwell Hanford Operations, RHO-BWI-ST-4.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
NUCLEAR PROJECT NO. 2

LOCATION MAP FOR ROCKWELL HANFORD
OPERATIONS SEISMIC REFLECTION LINES
1 AND 2

FIGURE
1

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