

50-352

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APR 24 1981  
U.S. NUCLEAR REGULATORY  
COMMISSION

MAR 31 1981

Mr. Frank R. Romano  
Chairman AWPP  
61 Forest Avenue  
Ambler, Pennsylvania 19002

Dear Mr. Romano:

This is in response to your most recent letter to A. Schwencer dated February 20, 1981. With respect to the blasting effect on the foundation bedrock, we have nothing further to add to what was said in the 25 July 1980 letter report from J. F. Devine, U. S. Geological Survey to R. E. Jackson, NRC. A copy of this letter report was attached to D. E. Eisenhut's letter to you dated October 9, 1980. In that letter Mr. Devine concludes, based on the USGS' assessment of the available information, that the maximum explosive charge weight/time delay will not exceed 400 pounds, and the minimum possible distance of blasting to Class 1 structures is 2000 feet. Blasting with this relatively small charge and at a minimum distance of 2000 feet would not affect plant Class 1 structures. The particle velocity achieved from the maximum explosive charge would equal 0.4 inches per second. This is one fifth of that allowed by the Pennsylvania State Blasting Code Criteria for safe ground motion, which equals 2 inches per second. According to the Pennsylvania code, even higher values of ground motion are allowed if seismic recording instrumentation is used as is the case at Limerick. The Pennsylvania code concerns ordinary structures that have no seismic design. The Limerick plant is seismically designed. Finally, as Mr. Devine points out, the Pottstown Trap Rock Quarry blasting is taking place within a rock horizon that is stratigraphically higher than the foundation rock at the plant.

On page 2 (last sentence of the third paragraph) of your letter, you state that Bechtel (9-3-74) indirectly described the cracks in the foundation rock as being of recent origin. However, in its summary on page 13 of that report Bechtel concludes that the faults are very ancient with the statement that the stresses that created the fractures and joints have not existed for millions of years.

We regret to hear that you find the Philadelphia Electric Company report dated July 29, 1980, "unconvincing" although it attempts to answer one of the basic questions concerning effects of blasting on concrete by comparing the character and amplitude of blast generated seismic energy with those of the Operating Basis Earthquake (OBE) design spectra for the safety related structures at the Limerick site.

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Mr. Frank R. Romano

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As Mr. D. Eisenhut pointed out in his letter dated March 10, 1981, it is possible to correlate blasting activity at the Trap Rock Company with concrete pours and curing. In view of your continuous interest in this issue, we are requesting that PECO provide us with such a correlation which will be reviewed by the NRC staff. Furthermore, we believe that a direct discussion of the issue with you might serve to clarify your concerns. We propose to meet with you, at your convenience, in order to discuss this matter and to put it in better perspective and to reach an agreement on the necessary action to be taken in the future. I wish to assure you that you are not alone in your concerns and that the NRC staff is ready to take appropriate action to ensure that the safety of the public is assured.

Sincerely,

Original signed by  
Robert L. Tedesco

Robert L. Tedesco  
Assistant Director for Licensing  
Division of Licensing

OFFICE	LB72/DL	LB 4/DL	OELD CWD	AD/DL			
SURNAME	DS [signature]	ASchwencer	CWoodhead	RTedesco			
DATE	3/24/81	3/24/81	3/24/81	3/24/81			

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8102260418 DOC. DATE: 81/02/20 NOTARIZED: NO DOCKET #  
 FACIL: 50-352 Limerick Generating Station, Unit 1, Philadelphia Ele 05000352  
 50-353 Limerick Generating Station, Unit 2, Philadelphia Ele 05000353  
 AUTH. NAME AUTHOR AFFILIATION  
 ROMANO, F.R. Air and Water Pollution Patrol  
 RECIP. NAME RECIPIENT AFFILIATION  
 SCHWENCER, A. Licensing Branch 2

SUBJECT: Expresses concern re util 800729 rept, "Comparison of Near-Site Quarry Blast Characteristics to Seismic Design." Util has not met commitments made at 791218 meeting w/NRC. Requests blasting test on subfoundation on rock faults.

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# AIR and WATER Pollution Patrol

BROAD AXE, PA.

February 20, 1981

Mr. Al Schwencer, Chief  
Licensing Branch #2  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Subject: Limerick Generating Station Blasting Effects; Concrete Integrity

Reference: Letter to Harold K. Denton of NRC of 4/12/79  
Letter to Harold K. Denton of NRC of 5/14/79  
Letter to Harold K. Denton of NRC of 6/10/79  
Letter to Harold K. Denton of NRC of 8/1/79

Dear Mr. Schwencer:

In its July 29, 1980 report relative to Docket No 50-352 and 50-353, titled "Comparison of Near-Site Quarry Blast Characteristics to the Seismic Design at Limerick Generating Station", Philadelphia Electric's Eugene J. Bradley ends his cover letter saying "The submittal of this report completes all of the commitments made by us at the December 18, 1979 meeting with NRC representatives".

But Philadelphia Electric's report above does not address itself to, nor answer the pertinent question which was the reason for--and subject of the December 19, 1979 meeting with NRC representatives at Limerick, Pa.

The question which our group posed was: Has the already fractured, and vertically -cracked condition of the rock, (see Bechtel Power Co. report of 9/3/74) upon which the reactor buildings are constructed, as well as the foundations of the reactor building itself, been affected by the Trap Rock Quarry's dynamiting since construction began in 1974 to the present time?

This dynamiting is, and has been taking place on the very same fractured rock upon which the reactor building containing the reactor core has been constructed (see Bechtel Power Co. report of 9/3/74).

This dynamiting has gone on during five years of concrete pouring without consideration of possible adverse effect on the already cracked rock, as well as affect on concrete setting as it may be affected in loss of integrity and strength.

This potentially dangerous over-sight is proven by tests reported in P.E.'s July 29, 1980 report to Mr. A. Schwencer. That report proves the tests were performed only after our group brought this omission to the attention of the NRC in letters to Dr. Harold Denton on 4/12, 5/14, 6/10 and 8/1/79. The July 29, 1980 report verifies that tests which

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**AIR and WATER**  
**Pollution Patrol**  
BROAD AXE, PA.

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Subject: Limerick Generating Station Blasting Effects contd.

should have been done before construction was started, were not done until five years after construction began, rather than before and during construction.

This is to inform you that the Pennsylvania Air and Water Pollution Patrol, a non-profit Pennsylvania Corporation, does not accept the July 29, 1980 report which alleges P. E. has completed all commitments to the NRC. Our commitments are to safeguard the health and lives of approximately seven million people within 30 miles of the Limerick reactor... a commitment that the P.E. tests, as per above report, have not addressed.

Further, the July 29, 1980 report, with methods, findings, and conclusions are very unconvincing to us. We feel, the report described was only a band-aid test on seismic effects on a small number of blasts in a small time interval, with conditions different than in 1974. The tests reported did not at all shed light on the effect, or lack of effect on the deep verticle cracks under the reactor building foundation...cracks indirectly described as of recent origin in the Bechtel Power report of 9/3/74.

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Neither were tests run, or reported, that addressed themselves to the integrity and strength of the concrete poured in all cases during the five years since construction of the reactor building began at Limerick, as corroborated in the letter of October 9, 1980 to me from Darrell Eisenhut, Director of Licensing.

In my August 1, 1980 letter to Dr. Denton, among other requests, I asked that records of blasting by the Trap Rock Co., and records of concrete pours, by Philadelphia Electric Contractors, be submitted to our group for study...but no such information has been forth-coming. (P. E. must be forced to produce these records. If not available, the integrity of the concrete at Limerick can not be proven adequate). We again request blasting tests on the sub-foundation rock faults; blasting tests on the concrete foundations and walls, and the records of blasting dates vs pouring dates referred to above, as per section 2.206 of 10 CFR.

Copies of this letter will go to my personal friends, Richard Schweiker, Sec. of Health and Human Resources, and Congressman Lawrence Coughlin, both from Montgomery County, the county in which the reactor is planned, to apprise them of the unsatisfactory handling, totally signifying inadequate concern by P.E. for the hazzards the quarry blasting can pose to the Limerick reactor site and buildings...and ultimately to the people of Montgomery County.

Very truly yours,

*Frank R. Romano*  
Frank R. Romano, Chairman ANPP  
61 Forest Ave.  
Ambler, Pa. 19002

FRR/jch

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