

# AIR and WATER Pollution Patrol

BROAD AXE, PA.

Sept. 3, 1982

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Conner and Wetterhahn  
1747 Pennsylvania Ave., NW  
Washington, DC 20006

DOCKET NUMBER  
PROD. & UTIL. FAC.

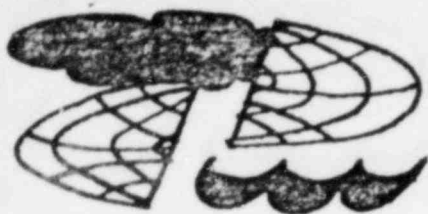
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Dear Mr. Conner:

Pursuant to the Limerick Board's order concerning informal discovery of existing documents, Air and Water Pollution Patrol requests the following re Weather Modification (carburetor ice) --Contention V-4

Applicant asserts there will be "little or no effect" on weather modification as it relates to carburetor ice danger to aircraft resulting from the release of 35 million gallons of water (as vapor) per day, and which may accumulate in the immediate Limerick reactor-Pottstown area, ordinarily, and more particularly when natural stagnant conditions exist. In particular,

- (A) Provide documentation relating to P.E.'s studies which took into consideration how many days in the past 10 years the dew point was 50°F or less than the air temperature.
- (B) Show documentation that demonstrate that P.E. took into consideration (re added moisture build up or accumulation possible from the cooling towers) the number of days within the past ten years that fog existed in the Pottstown-Limerick area making ground level visibility less than one mile; less than ½ mile; less than ¼ mile; less than 500 ft.; less than 300 ft.
- (C) Provide documentation that PE's studies included the number of days within the past ten years that the cloud ceiling was 1,000 ft. or less, and the visibility in the Pottstown-Limerick area (as a measure of accumulated moisture in the air) was 4 miles; 3½ miles; 3 miles.-
- (D) Provide existing studies that indicate no potential for carburetor ice formation or other adverse effects on aircraft from accumulation of 35 million gallons per day of moisture from the Limerick towers under stagnant naturally saturated conditions present 2, 3, 4, days or more in a row from February through April and from September through November.

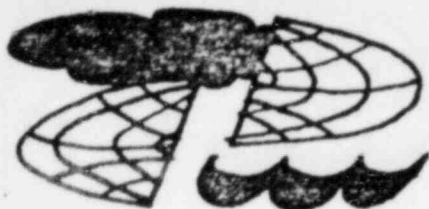


**AIR and WATER**  
**Pollution Patrol**  
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(2)

Letter to Troy B. Conner re: informal discovery of existing documents--Contention V-4....contd.

- (E) Provide existing studies that the Applicant has made to insure there will be no adverse effects (as it relates to accumulated moisture) which could increase potential for carburetor ice, as referenced on pps 15, 17, 18, and 25 in "Aerology Series No. 1, " Ice Formation on Aircraft", Bureau of Aeronautics, U.S. Navy". (Pages enclosed)
- (F) Provide documentation and/or studies that indicate how many days during 1981
- (1) the dew point was reached within 1,3,5,7, 10 miles of the Limerick reactor and
  - (2) the dew point was within 1,3,5,7 degrees F of the air temperature in the Limerick area and
  - (3) please provide documentation to show grams of moisture per liter of air on days
    - (a) when dew point was within 1, 3, 5 degrees F of air temperature and
    - (b) on days when air is stagnant and saturated, how much moisture is added per liter in a volume of air 1,000 feet high and 1 mile square with tower water vapor releases accumulating 1,2,3,4,5 and 6 days.
  - (4) Please provide tables and data used from which (1), (2), and (3a) and(3b) above were determined.
- (G) Provide documentation to show
- (a) values you received on studies to show how often plume height with south east winds would be 1,000 feet or under at 2,3,4,7 miles from the Limerick towers.
  - (b) number of days north north west (NNW) wind blows directly toward Perkiomen Airport traffic pattern, approximately 6 miles from site, when plume cannot evaporate and layers 600 to 1000 feet above the ground as per LGS EROL.
- (H) Provide documentation on studies P.E. has done to show there would be no "chimney" effect, namely, there would be no rising hot air from the towers to cause descending air currents to create wind shear in the Pottstown-Limerick area to augment carburetor ice danger.



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(3)

Letter to Troy B. Conner re: informal discovery of existing documents--Contention V-4.... contd-

- (I) Also provide all correspondence by P.E. or any agency, group, or individual representing P.E., with Perkiomenville Airport and Pottstown Municipal Airport or any of the two airports owners, representatives, (legal, financial or otherwise) from 1974 to the present, regarding potential effects of the Limerick plant on operation and use of the airports.
- (J) Further, provide copies of contracts, agreements, leases or arrangements P.E. has made with operators or owners of Pottstown-Limerick, Limerick Municipal, and Perkiomenville airports.
- (K) Provide documentation on purchase by P.E. of the Pottstown-Limerick Airport, amount of purchase and correspondence with Philadelphia Electric Board of Directors and former owners of the Pottstown-Limerick Airport relative to reason for purchase.

Respectfully submitted,  
Frank R. Romano--AWPP

Enclosure:

- (1) Interrogatories re Blasting. (VI-1)
- (2) Interrogatories re Welding Infractions (VI-1)
- (3) Interrogatories re Neutron Fluxes, etc. (VI-1)

(L) Re LGS EROL 5.1.4.3.1 (p 5.1-24) per table 5.11, Quote:  
" The main point to be drawn from table is that on days when plume does not evaporate while rising, it will level off at an elevation several hundred meters above ground, and in most cases augment an already existing cloud deck. When the Limerick winter morning plumes <sup>as compared to Amos</sup> documented by Kramer et al (Ref. 5.1-41 of LGS EROL) a slight preference for lower rises is noted at Limerick". (Underlineing by F. Romano) Please provide documentation that the above indication of ceiling under 1000 ft. with moisture content, augmented by plumes from Limerick, that there will be no adverse affect on aircraft, including high potential for engine failure with possible fatal consequences, due to carburetor ice caused by the Limerick operation.

I certify that service list was served by first class mail this date.



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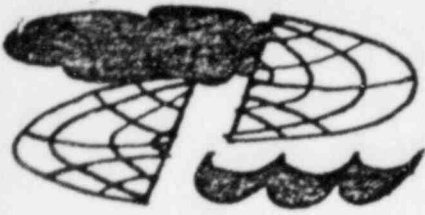
Sept. 3, 1982

Troy B. Conner, Jr. Esq. --re: Docket No 352-353 (Contention VI-1)

### Enclosure #1

Interrogatories re: Quarry Blasting.

- (1) Provide all documents and correspondence with Trap Rock Quarry Co., between Jan 1, 1970 and Dec. 31, 1976 re operation of quarry adjacent to Limerick reactor site, in particular as it relates to blasting activity at quarry.
- (2) Provide all correspondence and reports from Bechtel Corporation and Dames and Moore relating to fractures beneath the reactor site.
- (3) Provide documents used to conclude that the sub-rock integrity was more than just adequate, without a doubt.
- (4) Provide documents, reports, letters etc. showing effects of quarry blasting, and blasting by Applicant, on homes adjacent to the quarry and reactor site.
- (5) Provide documents and/or information that Applicant and Trap Rock Quarry co-ordinated blasting times with concrete placement times so as not to affect setting of recently placed concrete.
- (6) Provide documents to show seismic effect of quarry blasting on geology of the Limerick site over the past 50 years, 20 years, and in particular during 1970-1-2-3-4-5-6.
- (7) Provide documents or reports Applicant used to demonstrate concussion effect of blasting could not be transmitted to reactor location because of rock configuration.
- (8) Provide documents on tests which prove (sketches not wanted) the Limerick reactor foundations are stratigraphically lower than the Trap Rock Quarry.
- (9) Provide records which show the exact date, and the geologist(s) who first made the above finding(8)... and written procedure used to establish the conclusion without a doubt.



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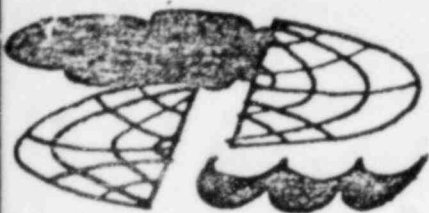
Sept. 3, 1982

Troy B. Conner, Jr., Esq.--Re: Docket No 352-353 (Contention VI=1)

Enclosure #2

Interrogatories on Welding Infractions:

- (1) Provide all correspondence from the Nuclear Regulatory Commission to Applicant and contractor, and sub-contractor including Bechtel Corporation and vice versa regarding infractions in welding procedures during construction of the Limerick reactor facility from 1974 to present.
- (2) Provide all documents or reports on infractions found in tool use recording and records.
- (3) Provide all documents on infractions of "use as is" rule as it relates to welding and associated activities, in particular, with the Unit I reactor core and containment drywell wall.-
- (4) As it relates to infractions identified during site inspection of Oct. 16, 19-22, 1976 reported to Applicant's Vincent Boyer in letter of Nov. 10, 1976 (Report No. 50-353/76/06) please provide job work record of inspector who accepted the deficient welds, including name of employer, length of time employed at Limerick, and qualifications to inspect welds.
- (5) Further, provide record indicating date separated from position as inspector, also provide employment records including unemployment compensation record, if any...and record to show inspector no longer is employed by same contractor.
- (6) Vincent Boyer's letter, Response 1(b), discusses one inspector. Provide record of licensee inspector, and disposition of his negligence.
- (7) Provide record of all welds accepted by inspector who accepted welds at elevation 253, columns 23C and 4, and provide record showing percentage of welds inspected by inspector in (6) above that were reinspected.
- (8) Please provide following documentation re 76-06-01; QCIR-C-201-W-1-8; C-41A-515-3; QCIR-C-204-W-1-2; C-41A-657-3; PI-A-Lh and C-201-W-1-8.
- (9) Please provide documents, delivery slips, etc. showing shipments involved with welded pipe worked on or received from ASSoc-iated Piping & Engineering, and/or ITT Grinell Industrial Piping with records of amounts, and records, where in the Limerick reactor facility, all pipe referred to above was or is to be used. (Re Doctored radiographs on welds from above).



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Troy B. Conner, Jr., Esq.--Docket No 352-353 (Contention VI-1)

### Enclosure #3

Interrogatories re: Neutron Fluxes

- (1) Provide documentation on studies re thermal shock vs neutron fluxes at reactor pressure temperature boundry of BWRs equivilent to Limerick. Give data including name of reactor, rating in KW or MW, instrumentation, time span and data gathering, and any other recorded information.-
- (2) Provide record of study of neutron fluxes at the wall of the BWRs such as Limerick prior to operation. If available give date calculated, results, name of software program, name of hardware that software program was run on, comparison to measures data, justifications for discrepancies between measured and calculated data if any.
- (3) Provide studies done, if any, on geometires and materials that fluxes would have to penetrate between fuel and wall before flux could irradiate wall.
- (4) Provide record, dates and individual(s) responsible for original calculations or data gathering in all the above answers.
- (5) Provide record of "test cupons" irradiated and tested in BWRs, including location where cupons were placed during irradiation and name, location, rating in MW of reactor.