

STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
PUBLIC SERVICE ELECTRIC AND GAS
COMPANY FOR A DETERMINATION
PURSUANT TO THE PROVISIONS OF
N.J.S.A. 40:55D-19 (SUSQUAHANNA-
ROSELAND TRANSMISSION LINE)

BPU DOCKET NO. EMO9010035

**INTERROGATORIES AND REQUESTS
FOR PRODUCTION OF DOCUMENTS
DIRECTED TO PUBLIC SERVICE
ELECTRIC AND GAS COMPANY'S
REPLY TESTIMONY OF KING AND
BAILEY
(September 2009)**

The Township of Parsippany, on behalf of all Municipal Intervenors and the Willow Lake Day Camp submit these Interrogatories and Requests for Production of Documents to Public Service Electric and Gas Co. pursuant to N.J.A.C. 1:10-1 *et seq.*

INSTRUCTIONS

1. You are to furnish all information available to you and to your agents and employees in responding to the following Interrogatories and Requests for Documents. You are to designate which information is not within your personal knowledge, and as to that information you are to state the name and address of every person from whom it was received, or, if the source of the information is documentary, a full description of the document and its location.
2. If any information required to answer any Interrogatory is withheld because you claim the information is privileged or is contained in a privileged document or communication:
 - i. identify the document and/or communication; and
 - ii. set forth the privilege and the factual basis upon which the privilege is claimed.
3. When used in the course of an enumeration of items for which documents or information are requested, the words "and" and "or" are to be construed as requesting documents or information as to each item in the enumeration, the same as if the entire request had been addressed solely to that item.
4. These Interrogatories and Requests for Documents are intended to be continuing and you are requested to make prompt supplemental responses whenever additional, responsive information becomes available.
5. If any response refers to or is based upon a document, the document(s) are to be provided with the answers. If you cannot provide the document(s), identify the name and address

of each person having possession, custody, or control of such document and, in all cases, identify the document in a form adequate to permit a demand for its production, including the author, addressee(s), title, date and subject.

6. Any term used in these Interrogatories and Requests for Documents in the singular shall be deemed to include the plural where appropriate and vice versa.

7. Whenever an Interrogatory requires you to describe an act or action, omission, meeting, conference, discussion, occurrence, happening, instance or event, you are to provide a full description thereof, including a statement setting forth (i) the date and place thereof; (ii) the identity of each oral communication involved and each document which refers to or which was prepared or made during the course thereof or as a consequence thereof; (iii) the identity of all persons who were witnesses or participants; and (iv) all relevant documents.

8. Whenever an Interrogatory or Request for Documents calls for information with respect to "each" one of a particular type or class of matters, events, persons, or entities, of which there is more than one, you are required to separately list, set forth, or identify for each thereof all of the information called for.

9. If you know of any documents, oral communications, or information but cannot give, either in whole or in part, the specific information called for by a particular Interrogatory, to the extent requested, so state and give the best information which you have on the subject.

DEFINITIONS

1. "Document" or "Documents" means all writings of any kind, including the originals and non-identical copies, whether different from the originals by reason of any notation made on such copies or otherwise, including without limitation correspondence, memoranda, notes, diaries, statistics, letters, telegrams, electronic mail, minutes, contracts, reports, studies, checks, statements, receipts, returns, summaries, pamphlets, books, prospectuses, certificates, drawings, plans, records, interoffice and interoffice communications, or offers, notations in any form made of conversations, telephone calls, meetings or other communications, bulletins, printed matter (including newspapers, magazines and other publications, and articles and clippings therefrom), press releases, computer printouts, teletypes, telescopes, invoices, ledgers, worksheets (and all drafts, alterations, modifications, changes and amendments of any of the foregoing), graphic records or representations of any kind (including without limitation photographs, tables, charts, graphs, and microfilm, videotape or film recording) and electronic, mechanical or electrical records or representations of any kind (including without limitation tapes, cassettes, discs, recordings), or transcriptions thereof. The term "all documents" means every document, as defined above, which can be located, discovered or obtained by reasonably diligent efforts, including without limitation all documents possessed by you or your counsel, or any other person or entity from whom you can obtain such documents by request or which you have a legal right to bring within your possession by demand.

2. "Identify", "identification", and "identity", as used herein, mean:

a. with respect to a document:

- i. the type of document, whether a letter, memorandum, report, agreement, recording, computer record, notation, etc.;
 - ii. the title, date and number of pages thereof;
 - iii. any caption, heading and/or date shown on the face of the document;
 - iv. the date of preparation, receipt and/or filing or other disposition;
 - v. the identity of each individual who originated, initialed, signed, authored, prepared or received (and, if same was done on behalf of any person, the identity of each such person), or is in any way referred to in the document;
 - vi. the identity of each addressee or recipient;
 - vii. the number of pages, if written, or the approximate size or length if recorded;
 - viii. the general subject matter of the document;
 - ix. the location of the document.
- b. with respect to a natural person, his or her:
- i. full name;
 - ii. occupation and employer;
 - iii. business and home address;
 - iv. business and home telephone number.
- c. with respect to an entity:
- i. its full name;
 - ii. its principal office address and telephone number; and
 - iii. its principal officer or member known to you.
- d. with respect to a communication:
- i. the date and time when it occurred;
 - ii. the place where it occurred;
 - iii. the complete substance of the communication;
 - iv. the identity of each person to whom and by whom the communication was made; and
 - v. the identity of all documents memorializing, referring or relating in any way to the subject matter of the communication.

3. "Person" or "persons" means all natural persons, corporations, partnerships or other business associations, and all other legal entities, including all members, officers, employees, agents, representatives, attorneys, successors, predecessors, assigns, divisions, affiliates and subsidiaries.

4. Each Request for Documents shall be deemed to call for the production of the original Documents, to the extent that they are in or subject to, directly or indirectly, your control.

In addition, each request should be considered as including all copies and, to the extent applicable, preliminary drafts of documents which, as to contents, differ in any respect from the original or final draft or from each other (e.g., by reason of handwritten notes or comments having been added to one copy of a document but not on the original or other copies thereto).

5. The term "relating to" (including any variant thereof), includes, but is not limited to, containing, referring to, alluding to, responding to, concerning, in connection with, commenting on, in respect of, showing, discussing, explaining, mentioning, analyzing, touching on, constituting, comprising, evidencing, setting forth, summarizing, and is not limited to contemporaneous events, actions, communications, or documents.

6. As used herein, any term in the singular shall be deemed to include the plural where appropriate and vice versa.

7. As used herein, all terms including "and" and "or" shall be construed either conjunctively or disjunctively as required by the context to include in the response any document that might be deemed non-responsive by any other construction.

8. As used herein, "PSE&G" means Public Service Electric & Gas Co.

9. As used herein, "Proposed Line" or "Line(s)" or "Project" means the Susquahanna-Roseland Transmission Line that is the subject of this proceeding.

INTERROGATORIES & REQUESTS FOR DOCUMENTS

Questions Directed to Kyle King, reference, Reply Testimony:

1. **Page 1, Line 9:** On what basis are the current levels for the year 2013 predicted and how reliable (e.g., +/-%) are the predictions?

2. **Page 4, Line 14:** You state that the NIEHS says that the background magnetic field level in most homes is between .5 and 5 milligauss. The data obtained by Zaffanella on behalf of EPRI and distributed to the public by NIEHS EMF Rapid program in 2002, indicate that background field levels are much lower. The background in 50% of homes was shown to be below 0.6 mG, 84% of homes were below 2.1mG and 94% of homes were below 2.9 mG. Is your statement correct? If so, how do you reconcile it with the data obtained by Zaffanella?

3. **Page 6:** Dr. Blank stated in his testimony that the addition of a 500 kV line would raise the EMF above the present level. You appear to suggest that the addition of a 500 kV line would lead to a lower magnetic field than that which is created by the existing 230 kV line. Do you mean that the use of more power results in a lower magnetic field? If so, please explain.

4. **Page 6 (bottom):** Do you agree that the use of the median without a measure of the dispersion of the measurements does not give an accurate picture of the distribution of the actual EMF level? Please state how often and for what length of time the current levels approach the maximum value. Please provide the values.

Questions Directed to William Bailey, Ph.D., reference Reply Testimony

5. **Page 2 line 11:** As a Ph.D. scientist with training in neuropsychology, neurochemistry, neuropharmacology and toxicology, please explain how this specialized neuro emphasis has prepared you to judge critically the recent molecular biological studies on EMF effects on DNA structure. As a Ph.D. scientist, why do you rely on the opinions of 'experts' chosen by appointed panels, rather than on evidence obtained by active scientists and published in peer-reviewed journals? Please explain how you exercise scientific judgment while invoking weight-of-evidence arguments that are at odds with scientific reasoning.

6 **Page 3 footnote:** Regarding DNA damage at EMF levels below what ICNIRP considers safe, you note that the recently released ICNIRP safety levels do not differ from the 1998 levels. Does any of the research added to the scientific knowledge base in the past 10 years, especially the papers showing DNA damage at EMF levels below what ICNIRP considers safe, suggest that there may be some basis for reevaluating standards? Please explain.

8. **Page 4 line 7:** As a scientist, what is the basis for your confidence in the opinions of the experts chosen for the 'expert panels'? Have the experts had their opinions subjected to the 'peer review' process commonly used to evaluate scientific publications? Do the expert panels have significant representation from the biological research community so as to be able to render an informed opinion on biological effects?

9. **Page 4 line 18:** Is it not the case that your comment on the following page (page 5), referring to DNA coming apart under many circumstances, actually confirm one of the many biological mechanisms (proposed by Dr. Blank) that you question here?

10. **Page 5 line 9:** The peer-reviewed scientific paper by Lin et al. (2001) showed that it was possible to transfer an EMF responsive segment of DNA to a reporter gene and activate the reporter gene with a magnetic field. This process is now protected by a US patent assigned to Columbia University. Do you agree that this paper shows a direct connection between a DNA segment on a stress protein promoter and the response to EMF? If not, please explain.

11. **Page 6 line 4:** Does the World Health Organization (WHO) report meet the criteria of a peer-reviewed scientific report? Were the scientists who wrote the WHO report chosen from a broad range of EMF experts, including biologists?

12. **Page 5, lines 14-18:** Would you please supply the full citations for the quoted research papers that reported not finding the stress response, and indicate the approximate percentage of the research papers on the subject that they constitute? The reviews published in the peer-reviewed journal, Pathophysiology, as well as in the Bioinitiative report, cited papers

that failed to observe a stress response, as well as papers that reported a stress response, and the vast majority reported a response. Papers not reporting a response were on tissue cultured cells and white blood cells.

13. Page 6 line 25 to Page 8 line 7: Are you aware that studies with HL60 cells led to a lot of needless confusion which the Jin et al. (1997) paper cleared up by analyzing the Saffer study, a paper that had become a cause célèbre. Saffer's much-publicized failure to reproduce the results was fully explained, and he has not been heard from on this issue since. The Jin paper showed clearly that there were at least two HL60 cell lines with the same name being used by experimenters. Since the two cell lines had very different responses to EMF, it was a poor choice for the study and a poor example to cite.

14. Page 8 line 11: Are you familiar with the genotoxic results shown in the Reflex study and subsequently verified in a 2009 publication by Rudiger in the peer-reviewed journal Pathophysiology? If so, please provide your opinion of the Reflex study.

15. Page 10 line 29: Are you familiar with the study by Liburdy et al. (1993) showing an effect of EMF on the ability of melatonin to inhibit the growth of breast cancer cells, and the fact that the study also showed a similar effect on tamoxifen, an anticancer agent? Are you aware that these effects have been replicated several times in the 2-12mG ELF range.

16. Page 11 line 20: Please explain how your summary of the Yang study differs from that provided by Dr. Blank, other than in the choice of language which seems to obscure the correlation between the risk of leukemia and the deficiency in DNA repair genes?

17. Page 16 line 21: How long has the use of low reactance phasing in the design of power lines been known to minimize fields, and how long has PSEG used this technique in its installations?

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By: 

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Dated: Sept 10, 2009