

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

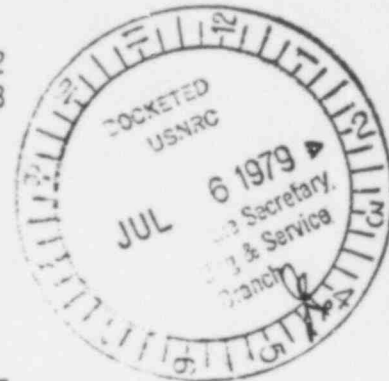
Before the Atomic Safety and Licensing Board

In the matter of
Arizona Public Service
Co., et al.

) Docket Nos. STN 50-592
) 50-593
)
)
)

(Palo Verde Nuclear Generating
Station, Unites 4&5)

FIRST SET OF INTERROGATORIES AND REQUESTS FOR PRODUCTION
OF DOCUMENTS FROM LARRY BARD, INTERVENOR, AND
JOINT APPLICANTS



Preface

Pursuant to Section 2.70b and 2.741 of the Commission's rules of Practice, Larry Bard, Intervenor, Propounds the following Interrogatories and Requests for Production of Documents to the Joint Applicants.

I.

INSTRUCTIONS

1. Each Interrogatory must be answered separately and fully in writing under oath or affirmation by the person or persons making them within 14 days from the date of service, and each document requested must be produced no later than 30 days after service of these Interrogatories and Requests for production.
2. As used herein the singular form of a noun or pronoun shall be considered to include within its meaning the plural form of the noun or pronoun so used and vice versa; in similar fashion, the use of the masculine form of a pronoun shall be considered to also include within its meaning the feminine form of the pronoun so used, and vice versa; and in a similar fashion, the use of tense of any verb shall be considered to also include within its meaning all other tenses of the verb so used.

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3. These Interrogatories shall be deemed continuing, so as to require additional answers if after answering such Interrogatories you obtain information upon the basis of which it knows a response was incorrect when made, or it knows that the response though correct when made is no longer true and the circumstances are such that a failure to amend the response is in substance a knowing concealment.
4. In your answer, repeat each Interrogatory set forth herein and then set forth the answer thereto separately and fully. As to any Interrogatory, section or subsection of said Interrogatory that you refuse to answer for any reason, separately state the grounds for any such refusal. Where a complete answer to a particular Interrogatory, section or subsection of said Interrogatory is not possible, such Interrogatory, section or subsection of said Interrogatory should be answered to the extent possible and a statement made indicating the reason for the partial answer.
5. If any response is withheld, in whole or in part, for any reason, including but not limited to any claim of privilege, confidentiality or trade secret, set forth the basis upon which such response is withheld, and include in such explanation a statement of what is being withheld, the whereabouts of all documents referring expressly to whatever response is being withheld, and the identity of all persons who have seen any documents being withheld or have knowledge of the matters being withheld.

II.

DEFINITIONS

The following definitions and instructions shall apply to these Interrogatories:

1. The words "identify," "identity" or "identification" when used in reference to a natural person means to state his full name and present or

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last known address, his present or last known position in business affiliation, and each of his positions during the relevant period; when used in reference to a business entity, means to state the name, address and any account or computer number to which such entity is referred to in your records; when used in reference to a document, means to state the type of document (i.e., letter memorandum, chart, sound production, report, computer input or output, etc.), the location where it is maintained, all identifying marks and codes, the addressee, the document date, author, and persons to whom copies were sent or persons initiating or reading or approving the document and the name of each of the present custodians of the document. If any such document was, but is no longer in your possession or subject to your control, or in existence, state whether it is (1) missing or lost, (2) has been destroyed, (3) has been transferred, voluntarily or involuntarily, to others, or (4) otherwise disposed of, and in each instance, explain the circumstances surrounding an authorization for such disposition thereof and state the date or approximate date thereof.

2. The terms "document" or "documentation" mean and include every writing or record of any type and description that is in your possession, control or custody of your attorney's possession, control or custody as of the date of filing your answers to these Interrogatories, including, but not limited to, correspondence, memoranda, stenographic or handwritten notes, drafts, studies, publications, invoices, ledgers, journals, books, records, accounts, pamphlets, voice recordings, reports, surveys, statistical compilations, work papers, data processing cards, computer tapes or print-outs, or any other writing or record of any kind. The term "document" also includes every copy of a writing or record where such copy contains any commentary or notation of any kind that does not appear on the original or on any other copy. Without limitation of the term "control," a document

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is deemed to be within your control if you have ownership, possession, or custody of the document or a copy thereof, or the right to secure the document or copy thereof from any person or public or private entity having physical possession thereof.

3. "Studies" means all analyses of every type, including but not limited to evaluations, reports, research, examinations, abstracts, criticisms, calculations, tabulations, compilations, compendiums, surveys, books, essays, monographs, and all other investigations, published or unpublished.

4. "Relating to" means relating to in any way and includes the documents which are subject of the request (e.g., "relation to a study" includes the study itself). Requests concerning a study or basis should be understood to include all input considered and all possible outcomes with respect to such study or basis. For example, requests for documents relating to engineering studies would include all data compiled but not used and all results considered but rejected.

III.

INTERROGATORIES

Contention 1

1. What measures are to be taken to prevent seepage of contaminants into the perched water zone under Palo Verde site?
 2. What studies have been performed which support the measures to be taken to prevent seepage of contaminants into the perched water zone under the Palo Verde site. Identify and produce any such studies including the methodology and all calculations on which you rely.
 3. State the facts upon which you rely in supporting the measures to be taken to prevent seepage of contaminants into the perched water zone under the Palo Verde site and produce all documents which support your answer. If you rely upon any person in order
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to substantiate this, identify each such person and for each person so identified supply the person's professional qualifications.

4. Identify each person you intend to call as a witness at the hearing in this matter to testify relating to this contention or any part of this contention, and as to each witness to be offered as an expert provide:

- (a) the person's qualifications as an expert,
- (b) the substance of the facts and opinions to which such person is expected to testify, and
- (c) a summary of the basis for each fact and grounds for each opinion of such person.

5. Describe in detail the mechanisms by which contaminants would be leached from the evaporation ponds and enter the perched zone and groundwater table beneath the Palo Verde site, and what steps will be taken to prevent this.

6. List all contaminants which will be discharged to the evaporation ponds and specify the annual quantity of each contaminant which will be so discharged.

7. List the specific contaminants that will be leached from the evaporation ponds on the Palo Verde site and will seep into the groundwater table. For each such contaminant describe in detail the flow path and flow rate for that contamination.

8. What percentage of the annual quantity of each contaminant listed in the previous question would seep into the perched zone and reach the groundwater table annually. Provide all studies and calculations which you performed in order to respond to this question.

9. What is the current level of groundwater table beneath the site?

10. How much time would elapse for the contaminants which seep from the evaporation ponds to reach the groundwater table after they first enter the ponds? Provide any studies or calculations which you performed or relied upon in res-

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ponding to this question.

11. Assuming that the contaminants listed in response to Question 7 will in fact seep into the ground water table, what period of time would elapse before these contaminants reached the closest source of drinking water to the site? Provide any calculations or studies which you preformed or relied upon in answering this question.

12. Describe the location and physical characteristics of the "waste disposal area on site."

13. List the specific solid waste products which will be buried on site and for each one specify the annual quantity which will be thus buried. Identify the source for your answer.

14. Describe in detail the mechanism by which solid waste will be leached from the waste disposal area on site and reach the ground water table.

15. List each solid waste product which will be leached from the waste disposal area on site and reach the ground water table. For each solid waste product listed, what quantity would reach the ground water table on an annual basis? Provide all studies or calculations which you performed or relied upon in responding to this question.

16. What period of time would elapse before the solid waste products listed in response to the previous question would be leached from the solid waste disposal area on site and reach the ground water table? Provide any calculations or studies which you performed or relied upon in responding to this question.

Contention 2

1. Is it your position that there will be sufficient water available to cool Palo Verde Units 4&5 from the 91st Ave plant?

2. State whether you have performed or relied upon any studies which support the allegation that sufficient water will be available to cool PV 4&5 from the 91st Ave plant. Identify and produce any such studies, including

the methodology and all calculations on which you rely.

3. State the facts upon which you rely in supporting the allegation that sufficient water will be available to cool PV 4&5 from 91st Ave plant; identify and produce all documents which support your answer. If you rely upon any person in order to substantiate this identify each such person and for each person so identified supply the person's professional qualifications.

4. Identify each person you intend to call as a witness at the hearing to testify relating to this contention or any part of this contention, and as to each witness to be offered as an expert provide:

- (a) the person's qualifications as an expert;
- (b) the substance of the facts and opinions to which such person is expected to testify; and
- (c) a summary of the basis for each fact and grounds for each opinion of such person.

5. How much water is necessary in order to cool Palo Verde Units 4 and 5 on an annual basis. Discuss the basis for your answer. If you rely on any documents to support your answer, identify and produce them. If you rely upon any person in order to substantiate your response, identify each such person and for each person so identified supply the person's professional qualifications.

6. How much water will be available for cooling Palo Verde Units 4 and 5 from the 91st Street Avenue plant during the 30-year lifetimes of these units. Discuss the basis for your answer. If you rely on any documents to support your answer, identify and produce them. If you rely upon any person in order to substantiate your response, identify each such person and for each person so identified supply the person's professional qualifications.

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7. What assumptions have been made with regard to increases in population

and per capita water usage in calculating the availability of cooling water for the lifetimes of Units 4 and 5? Discuss the basis for your answer. If you rely on any documents to support your answer, identify and produce them. If you rely upon any person in order to substantiate your response, identify each such person and for each person so identified supply the person's professional qualifications.

8. For each assumption listed in answer to the preceding question, state whether you believe that the assumption is realistic and if so give the basis for your belief that it is realistic. Attach any calculations which you have performed or relied upon in making the judgment that these assumptions are realistic.

9. Provide population projections which you consider to be realistic for the Phoenix metropolitan area for each 10-year period through the year 2020. Identify and produce any studies or other documents upon which you rely in responding to this question.

10. Provide per capita water usage projections which you consider to be realistic for each 10-year period through the year 2020. Identify and produce any studies or other documents upon which you rely in responding to this question.

Contention 3

1. What studies support the assertion that alternative sources of cooling water for Palo Verde Units 4 and 5 have been adequately evaluated. Identify and produce any such studies including the methodology and all calculations on which you rely to substantiate Contention 3.

2. What Assumptions have been made concerning acceptable water quality for cooling PVNGS.

3. State the facts upon which you will rely in supporting the allegation that alternative sources of cooling water for Palo Verde Units 4 and 5 have

been adequately evaluated, and produce all documents which support your answer. If you rely upon any person in order to substantiate this allegation, identify each such person and for each person so identified supply the person's professional qualifications.

4. Identify each person you intend to call as a witness at the hearing to testify relating to this contention or any part of this contention, and as to each witness to be offered as an expert provide:

- (1) the person's qualifications as an expert,
- (2) the substance of the facts and opinions to which such person is expected to testify, and
- (3) a summary of the basis for each fact and grounds for each opinion of such person.

5. Is it your position that there would be an insufficient quantity of groundwater to cool Palo Verde Units 4 and 5 for their 30-year lifetimes? If your answer is affirmative, identify and produce any calculations or studies relied upon in reaching your answer.

6. Is it your position that there will be insufficient irrigation and drainage water available to cool Palo Verde Units 4 and 5 for their 30-year operating lifetimes? If your answer is affirmative, identify and produce any studies or calculations which you relied upon in reaching your answer.

7. Is it your position that there will be insufficient Central Arizona Project water available to cool Palo Verde Units 4 and 5 for their 30-year operating lifetimes? If your answer is affirmative, identify and produce any studies or calculations which you relied upon in reaching your answer.

Contention 4

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1. State whether studies have been performed which show that Arizona Public Service is financially qualified to design and construct Palo Verde Units 4 and 5. Identify and produce any such studies, including the metho-

dology and calculations on which you rely to.

2. State the facts upon which you will rely in supporting the allegation that Arizona Public Service is financially qualified to design and construct Palo Verde Units 4 and 5; identify and produce all documents which support your answer. If you rely upon any person in order to substantiate this allegation, identify each such person and for each person so identified supply the person's professional qualifications.

3. Identify each person you intend to call as a witness at the hearing to testify relating to this contention or any part of this contention, and as to each witness to be offered as an expert provide:

- (a) the person's qualifications as an expert,
- (b) the substance of the facts and opinions to which such person is expected to testify, and
- (c) a summary of basis for each fact and for each opinion of such person.

4. State in detail the basis for your allegation that Arizona Public Service does have adequate funds at present to design and construct Palo Verde Units 4 and 5. Identify and produce any documents upon which you rely in answering this question.

5. Provide your estimate as to how much it will cost to design and construct the Palo Verde Units 4 and 5. Provide any calculations or studies which you have performed or upon which you rely in order to respond to this question.

6. State the amount of money which Arizona Public Service currently has available to design and construct Palo Verde Units 4 and 5. Discuss the basis for your answer. If you rely upon any person in order to substantiate your response, identify each such person and for each person so identified supply the person's professional qualifications.

7. Is it your position that there is reasonable assurance that Arizona Public Service will obtain the funds necessary to design and construct Palo Verde Units 4 and 5? If the answer to this question is affirmative, state in detail the bases for your answer and include any studies or calculations which you performed or upon which you rely in supporting your answer.

8. Is it Arizona Public Service position that it will be granted the rate relief necessary in order to design and construct the Palo Verde Units 4 and 5? If the answer to this question is affirmative, state the basis for your answer. If you rely upon any person in order to substantiate your response, identify each such person and for each person so identified supply the person's professional qualifications.

IV

WITNESSES

1. As respects your answers to Interrogatories please state:

(a) The name, occupation, address, and telephone number of each person who will be called as a witness to testify as to the facts set forth in those answers, identifying which facts each person will be testifying to.

(b) The field or science in which each such person is sufficiently schooled to enable them to express opinion evidence in this matter, if any.

(c) Whether such witness will base his opinion:

(i) in whole or in part upon facts acquired personally by that person in the course of an investigation or examination as to the facts; or

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(ii) solely upon information provided that person by others.

(d) The qualifications of each such person that would render that person,

is possible, as an expert witness.

- (e) If any such witness has made a personal investigation or examination relating to any of the facts or bases set forth in the answers to Interrogatories; state the date(s) and nature of each such investigation or examination.
- (f) Each and every fact, and each and every document, photograph, report, item, or other tangible object supplied or made available to each such person.
- (g) Whether each such person has rendered written reports, regarding facts, bases, or opinions as respects your contentions referred to in Interrogatories Nos. 7 through 46. If so, state:
 - (i) the date(s) of each such report;
 - (ii) the name and address of the custodian of each such report.

2. List each expert witness you will call to testify in this matter.

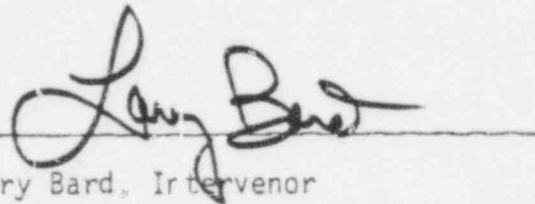
- (a) If not previously given in answers to these interrogatories, give the occupation, address, telephone number, educational background and experience (as it may relate to each such person's field of expertise, if any) of each expert witness.
- (b) State the subject matter on which each such expert is expected to testify.
- (c) State the facts to which each such expert is expected to testify.
- (d) State each opinion, if any, which each such expert is expected to express in testimony.
- (e) Give a detailed summary of the grounds for each opinion expressed by each such expert.

EXHIBITS

1. Identify, with specificity, each and every exhibit you intend to use in this matter. As to each such exhibit, state which facts, opinions, or contentions the exhibit supports, if any.
2. With reference to the exhibits listed in the preceding interrogatory, state the source and nature of the exhibit, i.e., whether said exhibit is documentary, a picture, or whatever; who prepared each exhibit; its date or preparation; and, who has custody of each exhibit.

DATED this 28th days of June, 1979.

By

A handwritten signature in cursive script, appearing to read "Larry Bard", written over a horizontal line.

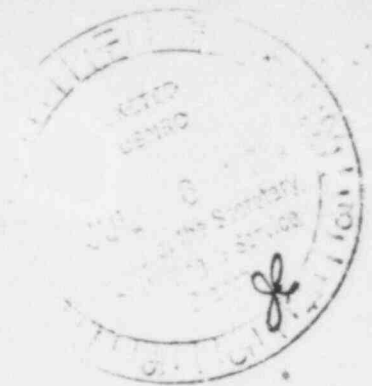
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RELATED CORRESPONDENCE

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD



In the Matter of)

ARIZONA PUBLIC SERVICE)
COMPANY, et. al.)

(Palo Verde Nuclear Generating)
Station, Units 4 and 5;)

Docket Nos. STN 50-592
STN 50-593

CERTIFICATE OF SERVICE

I hereby certify that copies of " FIRST SET OF INTERROGATORIES AND REQUESTS FOR PRODUCTION OF DOCUMENTS FROM Larry Bard, intervenor to Joint Applicant" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, this 29th day of June, 1979:

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FOR ORIGINAL

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