

8/11/81

RELATED CORRESPONDENCE  
UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
 )  
NORTHERN INDIANA PUBLIC )  
SERVICE COMPANY )  
(Bailly Generating )  
Station, Nuclear-1) )

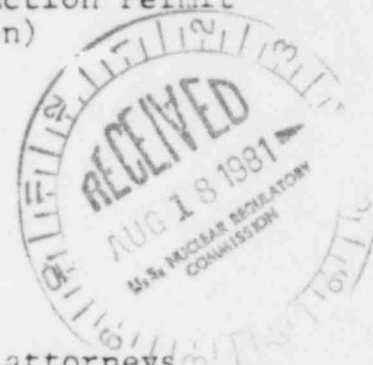
Docket No. 50-367  
(Construction Permit  
Extension)

PORTER COUNTY CHAPTER INTERVENORS'  
THIRD SET OF INTERROGATORIES  
TO THE NRC STAFF

Porter County Chapter Intervenor, by their attorneys, pursuant to 10 CFR §2.720(h)(2)(ii) and §2.740b, hereby serve upon the NRC staff ("staff") the following interrogatories to be answered separately and fully in writing under oath, within 14 days of the date of the Board's finding under 10 CFR §2.720 (h)(2)(ii).

The terms "you", "staff", and "NRC" include the United States Nuclear Regulatory Commission, Atomic Energy Commission, its staff, members, attorneys, employees, consultants, divisions or subdivisions, contractors and subcontractors. The term "NIPSCO" includes Northern Indiana Public Service Company, its agents, employees, representatives, subsidiaries, consultants, contractors and subcontractors.

The term "evaluation" refers to the "NRC Staff Evaluation of the Request for an Extension of Construction Permit No. CPPR-104 for the Bailly Generating Station, Nuclear-1, Docket No. 50-367" dated July 17, 1981. The term "negative



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declaration" refers to the "Negative Declaration Supporting the Extension of the Expiration Date for Construction Permit No. CPPR-104 Bailly Generating Station, Nuclear-1, Docket No. 50-367." The term "appraisal" or "EIA" refers to the "Environmental Impact Appraisal Prepared by the Division of Licensing Regarding the Extension of Construction Permit No. CPPR-104 Bailly Generating Station, Nuclear-1, Docket No. 50-367" dated July 17, 1981.

1. In the "evaluation", at page 2, is stated:

NIPSCO's estimate made in 1973 regarding the issuance date of the Bailly CP assumed that the Atomic Safety and Licensing Board would issue a favorable initial decision in December 1973 and that the NRC Staff would issue a CP by January 1, 1974.

With respect to that statement, please state:

- a. The basis for your knowledge as to what NIPSCO's estimate "assumed", and
- b. the basis for the statement.

2. In the "evaluation", at page 2, is stated:

However, it was reasonable to anticipate in 1973 that the CP hearings would end in August of that year based on their start in early April 1973.

Please state the basis for your assertion that such anticipation was "reasonable".

3. In the "evaluation", at page 2, is stated:

However, this relatively small slip of four months did not lead NIPSCO to alter its original estimate of the construction completion date.

Please state the basis for this statement.

4. In the "evaluation", at page 2, is stated:

The NRC staff also finds that the time period between the original date assumed for issuance of the CP (January 1, 1974) and the actual issuance (May 1, 1974) .. was beyond the control of the permittee.

Please state the significance of this conclusion to the staff evaluation of NIPSCO's request.

5. Is it your position that NIPSCO, when it realized or should have realized that the construction permit would not be issued by January 1, 1974, could have identified a new latest completion date for the Bailly plan?

- a. If your answer is yes:

(i) please state whether this fact was considered in the staff's evaluation of "good cause" and

(ii) if so, how consideration of that factor affected the conclusion that "good cause" exists.

- b. If your answer is no, state the bases for your answer.

6. With respect to that period between April 1976 and November 1976 discussed in the "evaluation", at pp. 2-3:

- a. Is it your position that this period cannot contribute to a conclusion that good cause exists for extension of the Bailly construction permit?

- b. Was the fact that NIPSCO "chose not to resume construction following a decision of the 7th Circuit of the U.S. Court of Appeals (April 13, 1976) denying petitions for review" ("evaluation" at pages 2-3) considered by the staff in its evaluation of NIPSCO's request for an extension of the latest

completion date for the Bailly facility?

c. If your answer to (b.) is yes, state how consideration of that fact affected the conclusion that "good cause" exists.

d. If that fact was not considered, state why not.

7. In the "evaluation", at page 3, is stated:

With respect to the time between April 1976 (the Court of Appeals decision) and November 1976 when the U.S. Supreme Court denied petitions for certiorari, we find it unnecessary to make any judgment as to whether NIPSCO's delay in resuming construction in the period from April 1976 to November 1976 is attributable to any reason which would constitute good cause inasmuch as NIPSCO made no such claim in its response to the cited interrogatory.

With respect to this statement, please state:

a. Whether NIPSCO made "such claim" (i.e., that the period of delay was attributable to a reason which would constitute good cause) in any other document, or in any other manner, including but not limited to the letters from NIPSCO by E.M. Shorb to Harold R. Denton dated February 7, 1979, August 31, 1979 and November 26, 1980.

b. If your answer to (a.) is yes, please describe each document in which "such claim" is made.

c. If your answer to (a.) is no, state why your finding as to the lack of necessity "to make any judgment as to whether NIPSCO's delay ... is attributable to any reason which could constitute good cause" was based on NIPSCO's interrogatory answers, and not based in any other documents.

8. In the "evaluation", at page 3, is stated:

It should be noted that most of the contractors and subcontractors involved in building a nuclear power plant in the first half of the construction phase, which is predominantly heavy construction, are highly specialized, capital intensive companies.

Please provide the basis for this statement.

9. In the "evaluation", at page 3, is stated:

Moreover, at all stages in the construction process, contractors on a nuclear power plant must establish and maintain highly specialized quality assurance/quality control procedures and highly skilled personnel.

Please provide the basis for this statement.

10. In the "evaluation", at page 3, is stated:

Accordingly, compared to the total number of contractors and subcontractors in heavy construction, there are relatively few who fulfill these requirements and are thus qualified to be employed by a utility in constructing a nuclear power plant.

With respect to this statement, please state:

a. What is the "total number of contractors and subcontractors in heavy construction" to which the statement refers?

b. How many "contractors and subcontractors in heavy construction" are there "fulfill these requirements and are thus qualified to be employed by a utility in constructing a nuclear power plant"?

c. Please state which of NIPSCO's contractors and subcontractors, if any, fall within the description given in your response to Interrogatory 10(b).

11. In the "evaluation" at page 3, is stated:

Since NIPSCO was unable to predict with any precision when the court ordered stay of construction would be lifted, it was unable to schedule the required contractors who could initiate construction immediately following the lifting of the stay on construction.

With respect to this statement, please state:

- a. The basis for your assertion that NIPSCO "was unable to schedule the required contractors" and
- b. The basis for the quoted statement.

12. In the "evaluation" at page 3, is stated:

To have kept specialized, capital intensive contractors "on call" for either an 18 month or a 25 month period attributable to the judicial stay of construction would have resulted in inordinately large economic penalties.

With respect to this statement, please state:

- a. The amount of "economic penalty" which would have resulted from an 18 month period.
- b. The amount of "economic penalty" which would have resulted from a 25 month period.
- c. The basis for your assertion that such an amount would be an "inordinately large economic penalty".

13. In the "evaluation", at page 4, is stated:

We conclude that the two month interval for NIPSCO to mobilize its contractors following the judicial stay was beyond the control of the permittee and that good cause has been shown for this specific delay.

With respect to this statement, please state:

a. Whether it is your position that it was possible or impossible for NIPSCO to mobilize its contractors so that they would be ready to proceed immediately upon the lifting of the judicial stay, and the bases for your position.

b. The bases for your assertion that the two-month interval was "beyond the control" of NIPSCO.

14. In the "evaluation" at page 4, is stated:

The NRC staff's position when NIPSCO originally proposed to install the slurry wall was that it was a good approach but that it was not required by the NRC.

With respect to this statement, please state:

a. Whether the "staff position" is memorialized in writing, and, if so, a description of the document, including page number, in which that description is memorialized.

b. The basis for the staff's position that "it was a good approach".

c. The basis for the staff's position that "it was not required by the NRC".

15. a. Is it your position that NIPSCO could have included plans for the slurry wall in its original construction permit application?

b. State the basis for your answer to Interrogatory 15(a).

c. Is it your position that NIPSCO could have submitted plans for the slurry wall prior to the date on which such plans were submitted?

d. State the basis for your answer to Interrogatory 15c.

e. If NIPSCO had submitted plans for the slurry wall at an earlier date, could the delay attributable to installation of the slurry wall have been avoided?

f. State the basis for your answer to Interrogatory 15e.

g. If your answer to Interrogatory 15e is yes, state whether this fact was considered by the staff in its evaluation of NIPSCO's request for an extension of the latest completion date for the Bailey facility.

h. If your answer to Interrogatory 15g is no, state why this fact was not considered.

i. If your answer to Interrogatory 15g is yes, state how consideration of that fact affected the conclusion that "good cause" exists.

16. In the "evaluation", at page 4, is stated:

The staff position at this time is that the slurry wall will expediate the early stages of construction and, accordingly, that the time expended in constructing this wall was time well-spent.

With respect to this statement, please state:

a. Whether this represents a change in the staff position from that position described in Interrogatory 14.

b. In what way the "slurry wall will expedite the early stages of construction."

c. The basis for the staff position set forth in the quoted statement.

17. In the "evaluation", at p. 4, is stated:

In this corner [the southeast corner of the excavation], the underlying clay layer into which the slurry wall is driven apparently thins out to a negligible thickness or is

nonexistent, thereby not providing a positive bottom seal at this point.

With respect to this statement, please state:

- a. When this information became known to the staff.
- b. How this information became known to the staff.
- c. Whether this fact was considered by the staff in its evaluation of NIPSCO's request for an extension of the latest completion date for the Bailly facility.
- d. If your answer to (c) is yes, how this fact affected the conclusion that "good cause" exists.

18. In the "evaluation" is stated:

Furthermore, the slurry wall was installed only after this approach was thoroughly ventilated in a hearing and authorized by an amendment to the CP.

With respect to this statement, please state:

- a. Whether this fact was considered in the staff's evaluation of NIPSCO's request.
- b. If your answer to (a) : yes, the effect of such consideration on the conclusion that "good cause" exists.
- c. The relevance, if any, of this statement to NIPSCO's request for an extension.
- d. The relevance, if any, of this statement to the staff's evaluation of whether "good cause" exists.

19. In the "evaluation", at page 5, you refer to a "September 1977 submittal" and a "September 1977 proposal".

- a. With respect to the "submittal" please state:

(i) A description of the submittal and, if contained in a document, a description of that document.

(ii) By whom the submittal was prepared.

(iii) The date the NRC staff received the submittal.

(iv) The person at the NRC staff receiving the submittal.

(v) What action the NRC staff took with respect to the submittal.

b. With respect to the "proposal" please state:

(i) A description of the proposal and, if contained in a document, a description of that document.

(ii) By whom the proposal was prepared.

(iii) The date the NRC staff received the proposal.

(iv) The person at the NRC staff receiving the proposal.

(v) What action the NRC staff took with respect to the proposal.

20. In the "evaluation", at page 5, is stated:

At that time, and in its subsequent effort the NRC staff expressed its concerns that the jetting process proposed by NIPSCO as an integral feature of its pile placement program might adversely effect the in situ soil properties of the underlying interbedded glacial sands and clays, and might also adversely affect the adjacent Indiana Dunes National Lakeshore.

With respect to this statement please state:

a. A description of the staff's "subsequent review effort".

b. In what form did the staff express its "concerns" and if such expressions have been reduced to writing, a description of the documents containing those expressions.

c. In what respect might the jetting process "adversely effect the in situ soil properties of the underlying inter-bedded glacial sands and clays"?

d. Did the jetting process so "adversely effect" any in situ soil properties at any location? If your answer is yes, please state:

- (i) The location(s) of such effect.
- (ii) A description of the effect.
- (iii) Whether either NIPSCO or the staff proposes to alleviate such effects and, if so, by what method.

e. If there was no such "adverse effect" state the basis for your conclusion that no such adverse effect exists.

f. In what respect might the jetting process "adversely effect the adjacent Indiana Dunes National Lakeshore"?

g. Did the jetting process in any respect "adversely effect the adjacent Indiana Dunes National Lakeshore"?

h. If your answer to (g) is yes, please state:

- (i) The location(s) of all such effects.
- (ii) The description of all such effects.
- (iii) Whether either NIPSCO or the staff proposes to alleviate such effects and, if so, by what method.

i. If your answer is that there were no such adverse effects, please provide the basis for your answer.

21. In the "evaluation", at page 5, is stated:

Accordingly, lacking any definitive demonstration of NIPSCO's claims, the NRC staff chose on a conservative basis not to accept the September 1977 proposal for pile placement.

With respect to this statement, please state:

- a. Whether it is your position that the plan was still in effect in February 1978.
- b. Whether it is your position that NIPSCO withdrew the plan, in December 1977, or at any other time.
- c. The basis for your answers to Interrogatory 21 a and b.
- d. Whether the staff's choice "not to accept the September 1977 proposal" is memorialized in writing and if so, a description of all documents so memorializing it.

22. In the "evaluation", at page 5, is stated:

In most, if not all, post-CP cases where the NRC staff view prevailed, subsequent delays have occurred in the design and construction phases.

With respect to this statement, please state:

- a. A description of all "post-CP cases where the NRC staff prevailed".
- b. A description of the staff's view in each such case.
- c. A description of all other views in each such case.
- d. All "subsequent delays" in each such case.
- e. Whether any case involved a foundation plan.

23. In the "evaluation", at page 5, is stated:

The NRC staff finds that NIPSCO acted in good faith in proposing an innovative engineering method for pile placement in September 1977.

With respect to this statement, please state:

- a. Your definition of "in good faith".
- b. The basis for your conclusion that NIPSCO acted "in good faith".
- c. Whether you contend that the conclusion that NIPSCO acted in good faith is relevant to the staff evaluation of "good cause".

d. In what respect the conclusion that NIPSCO acted in good faith entered into the staff evaluation that "good cause" exists.

24. In the "evaluation", at page 5, is stated:

On this basis, we find that the six month delay attributable to the review and subsequent rejection by the NRC staff of the September 1977 proposal represents good cause for the delay from September 1977 to March 1978.

With respect to this statement, please state:

a. Whether you contend that NIPSCO withdrew the "proposal" before the staff "rejection" of it.

b. If your answer to (a) is yes, on what date it withdrew the proposal.

c. If your answer to (a) is yes, why the staff rejected the proposal after it had been withdrawn.

25. Is it the staff's position that NIPSCO was unable to submit, at any date earlier than March 1978, the short pilings proposal? Please state the basis for your position.

26. In the "evaluation", at page 6, is stated:

We find that NIPSCO initiated the indicator pile program in an expeditious manner recognizing the specialized equipment required to drive the indicator piles.

With respect to this sentence, please state:

a. A description of all "specialized equipment required."

b. The bases for the conclusion that NIPSCO initiated the program "in an expeditious manner."

27. In the "evaluation", at page 6, is stated:

The length of this NRC staff review was primarily attributable to internal considerations regarding the NRC's various responsibilities rather than to any significant deficiency in NIPSCO's proposal.

With respect to this statement, please state:

a. A description of all "internal considerations" referred to in the statement.

b. Whether there were any "significant deficiencies in NIPSCO's proposal" and if so:

(i) A description of each such deficiency

(ii) Whether, and in what manner, NIPSCO has corrected this deficiency.

c. With respect to any other type of "deficiency" please state:

(i) A description of each such deficiency

(ii) Whether, and in what manner, NIPSCO has corrected this deficiency.

d. With respect to the phrase "primarily attributable", please state:

(i) Whether any of the length of the staff review was attributable to anything other than "internal considerations."

(ii) If your answer is yes, please state a description of all such reasons and to the extent to which all such reasons

contributed to the length of the staff review.

(iii) If your answer is no, state the bases for your answer.

28. In the "evaluation", at page 6, is stated:

Accordingly, we find that permittee had no control over the length of this NRC staff review and, therefore, we find that good cause exists for this period of delay.

With respect to this statement, please state:

a. In what respect your finding that "permittee had no control over the length of this NRC staff review" contributes to your conclusion that "good cause" exists.

b. Whether any "deficiencies" in NIPSCO's short piles proposal were considered with respect to the staff's evaluation of this factor for delay, and if so, the extent to which these deficiencies were considered.

c. If no "deficiencies" were considered, why not.

29. With respect to the "second mobilization of contractors" discussed at pages 6-7 of the "evaluation", please state the dates between which this period occurred.

30. In the "evaluation", at page 6, is stated:

In this instance, we interpret the phrase "mobilize its contractors" to include the engineering work force at its architect/engineer, Sargent & Lundy, and its pile placement contractor.

With respect to this statement, please state:

a. The basis for your "interpretation" of the phrase "mobilize its contractors".

b. Whether the phrase "mobilize its contractors" is interpreted to include any actions other than the mobilization of the engineering work force of Sargent & Lundy and the pile

placement contractor and, if so, a description of all such actions.

31.\* In the "evaluation", at page 6, is stated:

Lacking any detailed justification for this six month mobilization period, we cannot accept the full amount of this stated delay, particularly that portion related to a corporate decision-making process.

With respect to this statement, please state:

- a. The dates of the "six month mobilization period" referred to.
- b. Whether the staff requested "any detailed justification" and, if not, why not.
- c. Why "that portion related to a "corporate decision-making process" is unacceptable.
- d. Whether it is your position that this "corporate decision-making process" has taken place and, if so, between what dates.

32. In the "evaluation", at page 6, it is stated:

Recognizing that NIPSCO was able in November 1976 to mobilize its contractors within two months following the lifting of the judicial stay of construction, we believe that a second mobilization of NIPSCO's work force could reasonably be accomplished within a period of three to four months.

With respect to this statement, please state:

- a. The basis for the "belief" that mobilization "could reasonably be accomplished within a period of three to four months."

b. The dates to which this "three to four month period" refers.

33. In the "evaluation" is stated:

This leaves about two months of this particular delay for which good cause has not been shown.

With respect to this statement, please state:

a. The dates to which the "two months" refers.

b. Whether it is your position that NIPSCO has claimed that "good cause" has been shown for this two month period.

c. Whether the fact that "good cause" has not been shown for two months of delay was considered in the staff's evaluation of "good cause".

d. If your answer to (c) is yes, the effect of that consideration on the staff's conclusion that "good cause" exists.

34. In the "evaluation", at page 7, is stated:

On the basis of the foregoing discussion, we find good cause for the delay incurred in mobilizing NIPSCO's contractors a second time.

With respect to this statement, please state:

a. The length of time to which you attribute "the delay incurred in mobilizing NIPSCO's contractors a second time."

b. The dates between which this delay occurred.

35. In the "evaluation", at page 7, is stated:

The permittee has also identified in its letters of August 31, 1979, and November 26, 1980, additional factors which we find represent good cause for the delay in completing construction of the Bailly facility in the time period from September 1979 until September 1981.

With respect to this statement, please state:

- a. A description of each of the "additional factors" referred to above.
- b. The basis on which you "find" that each of these "additional factors...represent good cause for the delay".
- c. The time attributable to each of these factors.
- d. The reason why these factors are not discussed in the "evaluation".

36. In the "evaluation", at page 8, is stated:

Although we do not share NIPSCO's views on the particular cause of lengthier construction, we agree that experience indicates that 68 months from issuance of a CP to completion of construction was optimistic.

With respect to this statement, please state:

- a. A description of "NIPSCO's views on the particular cause of lengthier construction."
- b. A description of the staff "views on the particular cause of lengthier construction."
- c. In what respect you "do not share NIPSCO's views on the particular cause of lengthier construction."

37. In the "evaluation", at page 9, is stated:

Due to delays in the NRC staff's review of the shorter pile proposal, NIPSCO amended its estimated construction completion date from December 1987 to December 1989 in its letter dated November 26, 1980.

With respect to this statement, please state how you know that NIPSCO's act of "amending" was "due to delays in the NRC

staff's review of the shorter pile proposal."

38. In the "evaluation", at page 10, is stated:

The delays resulting from the use of larger pool dynamic loads, the impact of the accident at TMI and the other cited factors are not necessarily additive. We estimate a nominal combined delay of about 24 months for all these factors.

With respect to these statements, please state:

a. The amount of delay attributable to "the use of larger pool dynamic loads."

b. The amount of delay attributable to "the impact of the accident at TMI."

c. Each of the "other cited factors" referred to above.

d. The amount of delay attributable to each of the "other cited factors" listed in your response to (c) above.

e. The basis for your "estimate" of a "nominal combined delay of about 24 months for all these factors".

f. Provide all calculations upon which the quoted statements are based.

g. Provide all calculations upon which your answers to Interrogatories 38(a) through 38(f) are based.

39. In the "evaluation", at page 10, is stated:

The construction schedules of these facilities appear to correlate with the relative experience of their permittees in building nuclear power plants.

With respect to the above statement, please state:

a. Each of "these facilities" and "their permittees" to which the quote refers.

b. The experience in building nuclear power plants of each permittee of each of these facilities listed.

c. The experience of NIPSCO in "building nuclear power plants".

d. Whether NIPSCO's experience, or lack thereof, in building nuclear power plants was taken into account in determining the "reasonableness" of the requested extension.

e. If your answer to (d) is yes, the effect of that determination on your conclusion regarding the "reasonableness" of the requested extension.

f. If your answer to (d) is yes, the additional amount of time allowed NIPSCO because of its experience or lack thereof.

40. In the "evaluation", at page 11, is stated:

On the basis of the foregoing discussion, the NRC staff position is that NIPSCO should be able to complete the Bailly facility within about a 96 month period from resumption of construction (9 months from start of pile placement to first structural concrete plus 87 months from there to completion).

With respect to the "NRC staff position" stated above, please state whether that position allows for uncertainties, and, if so, the amount so allowed.

41. In the "negative declaration" is stated:

Specifically, the Commission has determined that this change to the construction permit (extending the latest date of construction completion) is not a major federal action significantly affecting the quality of the human environment.

With respect to this statement, please state:

a. Those persons to whom the term "the Commission" in the above statement refers.

b. The basis for the determination that "this change to the construction permit (extending the latest completion date of construction completion) is not a major federal action significantly affecting the quality of the human environment."

c. Whether it is the staff position that "extending the latest date of construction completion" is not a major federal action.

d. The basis for the staff answer to (c).

e. Whether it is the staff position that "extending the latest date of construction completion" does not "significantly affect the quality of the human environment."

f. The basis for your answer to (e).

g. Whether it is the staff position that extending the latest date of construction completion does not "affect the quality of the human environment" in any respect.

h. The basis for your answer to (g).

i. The definition of the term "human environment" as used in the quoted statement.

42. In the "appraisal" at page 1, is stated:

In our present appraisal, we evaluate three specific issues originally considered in the FES which could be affected by the proposed extension of the construction completion date from September 1, 1979, to December 1, 1989.

With respect to this statement, please state:

- a. Those persons who made the determination that the "three specific issues" would be evaluated.
- b. The basis for that determination.
- c. Those persons reviewing or concurring in the determination.
- d. The basis for the review or concurrence of such person listed in your response to Interrogatory 42(c).
- e. Whether any other "issues" were considered as possible issues to be included in the "evaluation".
- f. The reason each of those issues listed in your response to Interrogatory 42(e) were not included in the "evaluation".
- g. Whether or not such "issues" were "issues" originally considered in the FES, which could be affected by the proposed extension of the latest completion date for the Bailly facility.
- h. The basis for your answer to Interrogatory 42(g).

43. In the "appraisal", at page 2, is stated:

These additional 800 workers represent less than five percent of the total membership of the construction trade union locals from which these workers will be hired and less than one percent of the total estimated permanent resident construction work force in these counties.

With respect to this statement, please state:

- a. The source of your information that the "800 workers" represent "less than five percent of the total membership."
- b. The source of your information that the "additional 800 workers" represent "less than one percent of the total estimated permanent resident construction work force in these counties".
- c. The "counties" to which the quote refers.

d. If the source of your information stated in your responses to Interrogatories 43(a) and 43(b) is NIPSCO or its contractors or consultants whether any independent inquiry was made by you or on your behalf of any source, regarding these figures.

e. If your answer to Interrogatory 42(d) is yes, a description of all such inquiry.

f. If your answer to Interrogatory 42(d) is no, why no such inquiry was made by you.

44. In the "appraisal", at page 2, is stated:

The permittee estimates that at the time of peak labor demand, there would be 1200 construction workers entering the Bailly facility through this intersection for the morning shift in about 800 vehicles in addition to those vehicles used by the Bethlehem Steel work force.

With respect to this statement, please state:

a. The basis for your statement of what the "permittee estimates".

b. A description of the "time of peak labor demand" referred to in the sentence above.

c. Whether you obtained any independent information, other than from the permittee, or made any independent inquiry of any other source, regarding the assertion that "there would be 1200 construction workers entering the Bailly facility through this intersection".

d. Whether you obtained any independent information, or made any independent inquiry of any other source, regarding the assertion that the workers would be "in about 800 vehicles".

e. If your answers to Interrogatories 44(c) and 44(d) are yes, a description of each source of whom inquiry was made, and a description of the information provided by each such source.

f. If your answers to Interrogatories 44(c) and 44(b) are no, why you did not obtain or seek to obtain any independent information or make any independent inquiry.

45. In the "appraisal", at page 3, is stated:

This commitment by NIPSCO to stagger the work shifts of its construction workers represents an improvement over the conditions previously evaluated in the FES. Accordingly, we conclude that the potentially adverse impact of the additional construction workers at the Bailly site will be minimized.

With respect to these statements, please state:

a. A description of the "commitment by NIPSCO to stagger the work shifts".

b. The date on which this commitment was made.

c. The form in which this commitment was made and:

(i) if the commitment was oral, the person at NIPSCO making this commitment and

(ii) if the commitment was written, a description of the document containing this commitment.

d. A description of the "conditions previously evaluated in the FES" referred to in the above sentence.

e. In what respect NIPSCO's "commitment" represents an "improvement" over the "conditions previously evaluated in the FES."

f. Whether your "conclu[sion] that the potentially adverse impact of the additional construction workers at the Bailly site will be minimized" is based on the described "commitment" by NIPSCO. If your "conclusion" is based on anything in addition to or other than this "commitment" please describe on what that conclusion is based.

46. In the "appraisal", at page 3, is stated:

Specifically, construction dewatering of the excavation will be performed while the safety-related foundation piles are placed, the concrete base mat is poured and the outer walls of the various buildings are built above the "natural" level of the groundwater at the Bailly site.

With reference to this sentence, please state:

- a. The bases for each assertion in this sentence.
- b. The elevation of the "'natural' level of the groundwater" to which the sentence refers.
- c. The depth of "construction dewatering of the excavation"
  - (i) while safety-related foundation piles are placed;
  - (ii) while the concrete base mat is poured;
  - (iii) while the outer walls of the various buildings are built above the "'natural' level of the groundwater at the Bailly site."
- d. Please state the length of time during which construction dewatering of the excavation will be performed for each of the following:
  - (i) while safety-related foundation piles are placed;

(ii) while the concrete base mat is poured;

(iii) while the outer walls of the various buildings are built above the "'natural' level of the groundwater at the Bailly site."

47. In the "appraisal", at page 3, is stated:

These construction phases should be completed about two to three years after construction is resumed.

With respect to this statement, please state:

- a. The basis for the statement.
- b. Whether the staff has had any communication with NIPSCO regarding this statement.
- c. If your answer to (b) is yes, a description of all such communication, whether written or oral and, if written, a description of each document pertaining to each communication.

48. In the "appraisal", at page 3, is stated:

This section evaluates the environmental impact, if any, that may result from the extension of construction dewatering as a consequence of extending the latest completion date of the Bailly CP.

With respect to this statement, please state:

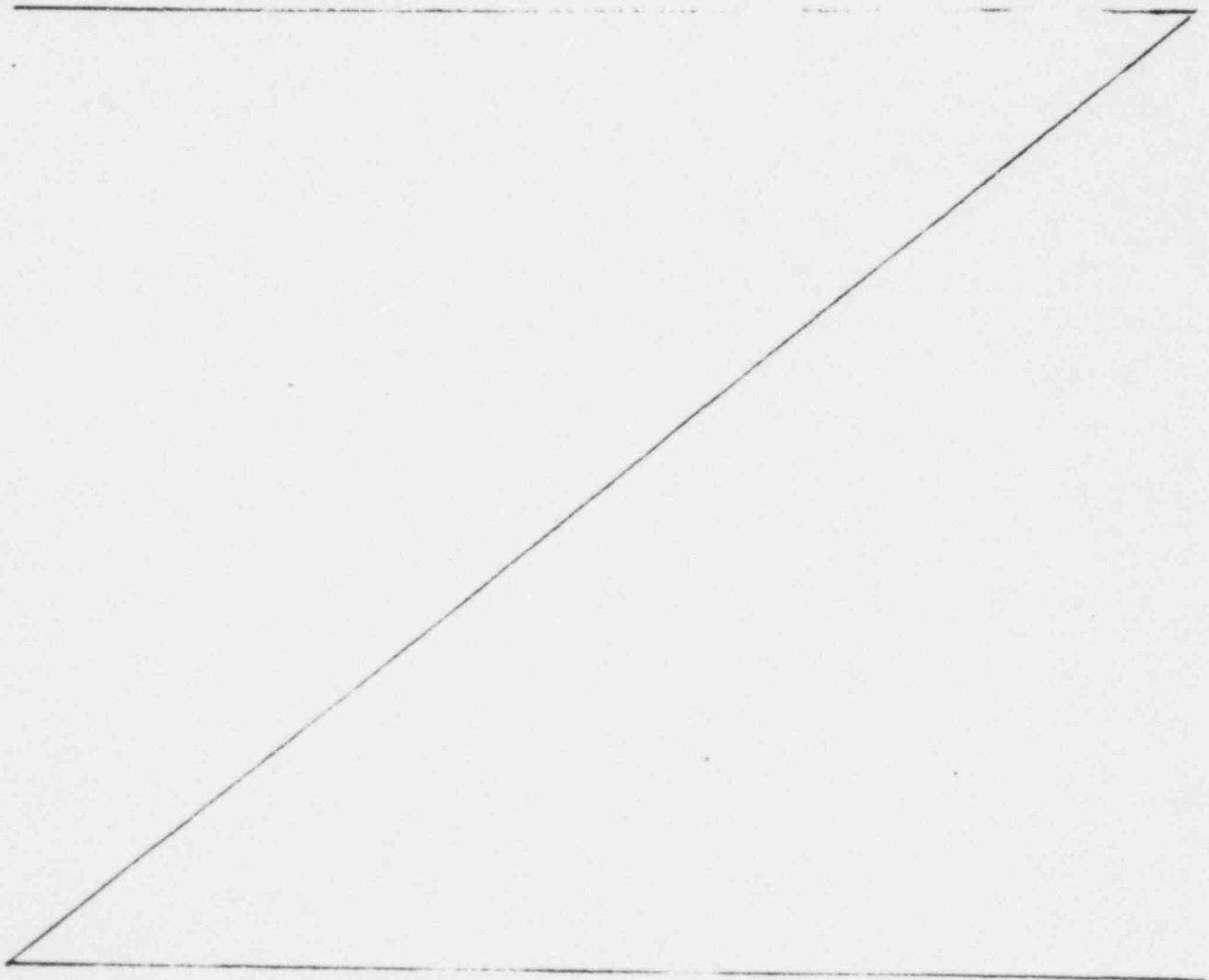
- a. A description of the "construction dewatering" to which you refer.
- b. The depth of such dewatering.
- c. The rate of such dewatering.
- d. The period of time over which such dewatering will take place.

e. The dates between which such construction dewatering will take place.

49. In the "appraisal", at page 3, is stated:

Accordingly, our testimony on construction dewatering at the Bailly site submitted in early 1975 for the hearing on the slurry wall superceded our evaluation in the FES.

With respect to this sentence, please provide a citation to all "testimony" in the hearing on the slurry wall to which the sentence refers.



50. In the "appraisal", at page 3, is stated:

Following installation of the slurry wall in early 1977 and excavation at the site, dewatering of the Bailly excavation has been continuous until the present. During this period of about four years, no adverse impact has been observed offsite.

With respect to this statement, please state:

a. With respect to the "dewatering" referred to in the sentence:

- (i) The depth of this dewatering
- (ii) The rate of this dewatering
- (iii) The length of this dewatering.
- (iv) The amount of water removed
- (v) The source for your information.

b. The definition of the term "adverse impact".

c. The basis for your statement that "no adverse impact has been observed offsite".

d. The definition of the term "offsite".

e. Whether the staff has had any oral or written communication with NIPSCO regarding the assertions in the quoted statement and, if so, a description of all such communication. If any communication is written, please provide a description of all documents pertaining to the communication.

51. In the "appraisal", at page 4, is stated:

The permittee, the U.S. Geological Survey (U.S.G.S.) and others have undertaken extensive studies of the soils and the groundwater beneath the site and in the adjacent National Lakeshore.

With respect to this sentence, please:

- a. Identify all "others" referred to in the above sentence.
- b. Identify each of the "studies of the soils and the groundwater" referred to in the quoted sentence.
- c. Please state whether you relied on, or referred to, any studies or reports, other than those listed in your answer to Interrogatory 51b, in the preparation of this "appraisal" and, if so, provide a description of each such study or report.

52. In the "appraisal", at page 5, is stated:

The discontinuities in the unit 2 confining layer in the vicinity of the excavation will probably be increased by the three thousand safety-related piles which will be driven through the confining unit in the Bailly excavation as part of the foundation and the two thousand piles for the turbine building foundation which have already been driven.

With reference to this sentence, please:

- a. State the depth to which it is contemplated that the "three thousand safety-related piles" will be driven.
- b. State the basis for your statement that the "discontinuities in the unit 2 confining layer...will probably be increased by the three thousand safety-related piles".
- c. State the basis for your statement that "the discontinuities in the unit 2 confining layer...will probably be increased by the two thousand piles for the turbine building foundation which have already been driven".

d. Please state whether the "discontinuities" have been affected in any way by the "two thousand piles".

e. If your answer to d is yes, please state a detailed description of this effect.

f. Provide the basis for the quoted statement.

g. Describe the location to which you refer in the phrase "in the vicinity of the excavation".

h. Provide a description of all documents to which you referred in drafting this statement.

53. In the "appraisal", at page 5, is stated:

Water from the lower unit 3 can be expected to seep into the excavation in areas where the confining layer does not exist if the total hydraulic head in the unit 2 confining layer is slightly below or exceeds the excavated level.

With respect to this statement, please state:

a. The basis for the assertion that "water from the lower unit 3 can be expected to seep into the excavation".

b. A description of the location of each of the "areas where the confining layer does not exist".

c. The "total hydraulic head in the unit 2 confining layer".

d. The "excavated level".

e. The amount by which the "total hydraulic head" exceeds the "excavated level".

54. With reference to the discussion in the "appraisal", at pages 5 - 6 of the "activities which have altered groundwater movement", please state:

a. A description of each specific change to or alteration of the groundwater caused by:

- (i) Reactor facility excavation
- (ii) Foundation pilings
- (iii) Slurry and sheet pile wall
- (iv) Ash ponds

b. A description of in what respect each of the following has "altered groundwater movement":

- (i) Reactor facility excavation
- (ii) Foundation pilings
- (iii) Slurry and sheet pile wall
- (iv) Ash ponds

c. With respect to each of the above changes or alterations, state whether it is your position that each is an adverse impact. State the basis for your answer.

d. State whether each of the changes or alterations was considered in the FES.

e. State whether each of the changes or alterations are considered in the "appraisal". Please state also:

(i) For each change or alteration which is considered, how that change or alteration affected your decision.

(ii) For each change or alteration affected that was not considered, the basis for your failure to consider that change or alteration.

55. With respect to each of the following activities, please state whether the activity has changed any characteristic of the groundwater or surface water within NIPSCO property and in the Indiana Dunes National Lakeshore:

- a. Reactor facility excavation
- b. Foundation pilings
- c. Slurry and sheet pile walls
- d. Ash ponds

56. In the "appraisal", at page 5, is stated:

This dewatering of the lowest elevations of the excavation is to be accomplished using well points.

With respect to this sentence, please state:

- a. The "lowest excavations" to which the sentence refers.
- b. The location of each well point.
- c. A description of the "dewatering" to which the sentence refers.

57. In the "appraisal", at page 6, is stated:

This previous practice of draining some of the sluice water into the permeable sands (unit 1) raised the groundwater level considerably above the "natural" level.

With respect to this statement, please state:

- a. How much of the "sluice water" was drained into the "permeable sands".
- b. To what level the "groundwater level" was raised by the "sluice water".

c. What level is the "natural" level to which the statement refers.

58. In the "appraisal", at page 6, is stated:

Records from wells near the ash pond indicate that since about May 1980, the progress made in sealing the ash ponds has been effective in that it has substantially reduced the groundwater levels, especially in those portions of the National Lakeshore which are immediately adjacent to the ash ponds.

With respect to this statement, please state:

- a. The manner in which the "records from wells" so "indicate".
- b. The amount of reduction of groundwater levels on the Bailly site, and the bases for your answer.
- c. The amount of reduction of groundwater levels in the Indiana Dunes National Lakeshore, and the bases for your answer.
- d. Whether the quoted statement accounts for dewatering for the purposes of sealing the ash ponds.
- e. If your answer to (d) is yes, specify in what respect and to what degree the statement so accounts.

59. In the "appraisal", at page 6, is stated:

Unfortunately, the parties collecting the boring and water level data have not always collected the necessary information describing the materials and water levels nor have they used the same material descriptions when such information was collected.

With respect to this statement, please state:

- a. The identity of each of the "parties collecting the boring and water level data".

b. For each of the parties described in (a), state what information was collected.

c. Describe what is encompassed in the term "necessary information" as used in the quoted statements.

d. Describe the differences in the "material descriptions" used by the parties.

e. State why the parties did not collect the same descriptions.

60. Please describe all data obtained from Bethlehem Steel, as referred to on page 6 of the "appraisal".

61. In the "appraisal", at page 6, is stated:

The number of locations at which data have been collected has increased significantly since the CP hearing in the early 1970's.

With respect to this statement, please describe the increase in the data which has been collected to which this sentence refers.

62. In the "appraisal", at page 7, is stated:

As a consequence, the U.S.C.S. has concluded that dewatering during the construction of the Bailly facility could produce a drawdown in the water level under Cowles Bog of as much as 0.7 feet.

With respect to this statement, please describe the document(s) in which that U.S.G.S. conclusion is found.

63. With respect to the first full paragraph on page 7 of the "appraisal", please describe each document relied on in formulating these assertions.

64. In the "appraisal", at page 7, is stated:

While we acknowledge the existence of confining layers at several locations, we conclude that the lateral extent of confining layers and, therefore, separate and distinct aquifers is questionable in certain areas.

With respect to this statement, please state:

- a. A description of those "several locations" at which you "acknowledge the existence of confining layers".
- b. A description of those "certain areas" in which you conclude that the lateral extent of "separate and distinct aquifers is questionable".
- c. The basis for your "conclusion" contained in the quoted statement.
- d. The basis for your rejection of reports and studies which do not agree with your "conclusion".

65. In the "appraisal", at page 7, is stated:

Rather than pursuing this question with respect to its effect on our evaluation of the Bailly construction dewatering, we have chosen instead to rely on the permittee's monitoring and mitigation program as a means of minimizing the likelihood of any consequences occurring offsite due to construction dewatering at the Bailly site.

With respect to this statement, please state:

- a. The basis for your choice to rely on the "permittee's monitoring and mitigation program".
- b. The reason you choose not to "pursue this question with respect to its effect on your evaluation of the Bailly construction dewatering".

c. All persons referred to, consulted with, or who had input to the decision to so rely.

66. In the "appraisal", at page 7, is stated:

This program has been supplemented by groundwater data collected by the U.S.G.S. and by the Bethlehem Steel Company.

With respect to this statement, please describe the data to which it refers.

67. In the "appraisal", at page 7, is stated:

The effects that are observed are primarily seasonal changes in the groundwater levels in the range of about three to four feet as recorded in the well water levels.

With respect to this statement, please state:

- a. A description of the "seasonal changes" to which it refers.
- b. A description of all data relied on in making this statement.

68. In the "evaluation", at page 8, is stated:

Namely, by artificially (sic) preventing the offsite groundwater levels from receding below the levels which would exist in the absence of construction dewatering, NIPSCO can ensure that no offsite effects due to Bailly construction dewatering will occur.

With respect to this statement, please state:

- a. A description of all levels which "would exist in the absence of construction dewatering".
- b. How NIPSCO's program "artificially prevents the offsite groundwater levels from receding below" those levels.

c. Whether your conclusion that "no offsite effects due to Bailly construction dewatering will occur" takes into consideration groundwater characteristics, rates of flow, and direction of flow.

d. A description of the "construction dewatering" to which the quoted statement refers.

69. In the "appraisal", at page 8, is stated:

Comparisons of water levels during active periods of dewatering at the Bailly site with historical records will provide an indication to initiate the mitigation program.

With respect to this sentence, please state:

a. A description of the "water levels during active periods of dewatering".

b. The rate of dewatering which you consider to be an "active period of dewatering".

c. A description of the "historical records" referred to in the quoted statement.

d. The manner in which the "comparison" will be made.

e. The person(s) who will make the comparison.

f. The difference between the "historical records" and the "water levels during active periods of dewatering" which will be allowed before the mitigation program is initiated.

g. Please describe each action involved in "initiating the mitigation program".

70. In the "appraisal", at page 8, is stated:

At that time, we concluded that such modeling was not necessary to accomplish our regulatory purposes at the Bailly site.

Please state the basis for the conclusion set forth in the above statement.

71. In the "appraisal", at page 8, is stated:

After completion of the backfill operations, the groundwater flow direction will return to its general northwesterly flow.

With respect to this statement, please state:

- a. The present direction of groundwater flow.
- b. The direction of groundwater flow at the time when NIPSCO's dewatering program will be dewatering to the lowest point required for construction.

72. In the "appraisal", at page 8, is stated:

Without mitigation, operation of the ash ponds with or without sealing and construction dewatering would significantly alter natural groundwater levels and flow rates both on the Bailly site and offsite.

With respect to this sentence, please state:

- a. A description of the "natural groundwater levels" referred to in the quoted sentence.
- b. A description of the "natural...flow rates" referred to in the above sentence.
- c. In what respect the "groundwater levels" would be altered on the Bailly site.
- d. In what respect the "flow rates" would be altered on the Bailly site.

e. In what respect the "groundwater levels" would be altered off the Bailly site.

f. In what respect the "flow rates" would be altered off the Bailly site.

g. The locations referred to by the term "offsite".

73. In the "appraisal", at page 9, is stated:

Groundwater levels at depths on the Bailly site and offsite could vary, reflecting the presence of a confining or semi-confining layer or layers....

With respect to this sentence, please state:

a. The locations referred to by the term "offsite".

b. The levels referred to by the term "groundwater levels".

c. How much such "groundwater levels" could "vary" on the Bailly site.

d. How much such "groundwater levels" could "vary" off the Bailly site.

74. In the "appraisal", at page 9, is stated:

With one modification which is discussed below, we conclude that the NIPSCO monitoring/mitigation program which minimizes off-site impacts from construction dewatering and which we have previously found acceptable, can still be used with a high probability of success and is, therefore, acceptable.

With respect to this statement, please state:

a. Where you have "previously found acceptable" NIPSCO's program, including, if appropriate, page citations.

b. Whether the program which you have "previously found acceptable" contemplates pumpage from Unit 3 and injection of water into Unit 3.

c. Whether the program which you have "previously found acceptable" is the same as the "NIPSCO monitoring/mitigation program" which NIPSCO proposes to use.

d. What was the rate of dewatering proposed in the NIPSCO program which you found acceptable?

e. State the basis for your answer to (d).

f. What is the rate of dewatering from each unit presently proposed?

g. State the basis for your answer to (f).

75. In the "appraisal", at page 10, is stated:

While the permittee has verbally agreed to submit the appropriate program modifications to the NRC staff for review, it has not yet done so.

With respect to this statement, please state:

a. By whom it was "verbally agreed" on behalf of the "permittee".

b. On what date the verbal agreement was made.

c. By whom it was "verbally agreed" on behalf of the NRC.

d. Each term of the "verbal agreement".

e. Does the agreement contemplate that NIPSCO will submit the "program modifications" and, if so, by what date and in what form.

f. A description of such "program modification".

76. In the "assessment", at page 10, is stated:

On the basis that a monitoring and mitigation program in both the units 1 and 3 aquifers can be readily implemented by NIPSCO and that the present NIPSCO program for monitoring the water levels in the surficial aquifer is still acceptable, we find that there will be no adverse impact on the water levels in the adjacent Indiana Dunes National Lakeshore, including the water levels in the vicinity of the Cowles Bog National Landmark.

With respect to this statement, please state:

a. The basis for your assertion that "a monitoring and mitigation program in both the units 1 and 3 aquifers can be readily implemented".

b. The basis for your assertion that "the present NIPSCO program for monitoring the water levels in the surficial aquifer is still acceptable".

c. Whether, if NIPSCO's "program" is implemented, there will be any changes in the groundwater or surface water in the Indiana Dunes National Lakeshore, including any change in flow direction, flow rate, or water characteristics.

d. State the bases for your answer to (c).

77. In the "assessment", at page 10, is stated:

These are judged to be the only potentially significant factors in assessing any environmental effects resulting from the delay in completing the Bailly facility

With respect to this statement, please state:

a. Whether you have considered any environmental effects resulting from an extension of the Bailly construction permit, as contrasted with those effects resulting from the delay in completion of the Bailly facility.

b. If your answer to (a) is yes, please state each environmental effect you considered, and how consideration of each effect affected your conclusions in the "appraisal".

c. If your answer to (a) is no, please state why such effects were not considered.

d. The bases for your assertion that "these are judged to be the only potentially significant factors".

e. Whether there are any other "factors" which you considered in making your choice to evaluate these effects and, if so, a description of such "factor".

73. Please state how many drafts or revisions were done of each of the following documents before they were submitted in this proceeding on July 17, 1981:

- a. The "evaluation"
- b. The "negative declaration"
- c. The "appraisal"

79. Please give the following information for the person swearing to the answers to these Interrogatories:

- a. Name
- b. Address
- c. Title

d. Capacity

80. Please give the following information of each person who has provided or furnished information to the person identified in Interrogatory 79, consulted with that person in the preparation of the responses to these Interrogatories, or otherwise aided in the preparation of the responses:


- a. Name
- b. Address
- c. Title
- d. Number (including subpart) of each Interrogatory with respect to which that person consulted, aided or provided or furnished information; and
- e. The nature of the information or aid furnished.

81. For each of the above Interrogatories, please describe each document referred to or relied on in formulating your response.

DATED: August 11, 1981

Robert J. Vollen  
Jane M. Whicher

By:

  
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