



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

guy

MAR 20 1984

MEMORANDUM FOR: Region III Files
FROM: R. F. Warnick, Director, Office of Special Cases
SUBJECT: MEETING WITH DALE BRIDENBAUGH

On March 14, 1984, Dale Bridenbaugh of MHB Technical Associates was in Region III to obtain information regarding Midland and Zimmer. Mr. Bridenbaugh is working for the Ohio Office of Consumer's Counsel on conversion of Zimmer to a coal plant and for the Michigan Attorney General on a Midland rate case.

I spent an hour to an hour and a half talking to Mr. Bridenbaugh about both Midland and Zimmer. Most of the time was spent discussing the Midland plant history since the formation of the Region III Office of Special Cases. We discussed the formation of the Office of Special Cases, the diesel generator building inspection, the construction completion program, the construction implementation overview by Stone and Webster, the remedial soils work, control of soils work by the work authorization procedure, stop work orders, and current job status. There was no discussion of cost or schedule.

The few questions about Zimmer were mainly historical and touched on the management audit by Torrey Pines Technology and licensee actions required by the NRC.

Mr. Bridenbaugh asked about a 50.55(e) report from Marble Hill having to do with Sargent & Lundy and structural steel deficiencies. I was not familiar with the report.

Steve Lewis, Regional Counsel, participated in part of the discussion.

RFWarnick
R. F. Warnick, Director
Office of Special Cases

cc: J. G. Keppler
J. J. Harrison

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PDR FOIA
RICE84-96 PDR

Jay

Consumers
Power
Company

General Office, 212 West Michigan Avenue, Jackson, MI 49201 • (517) 785-1600

January 24, 1984

Honorable Frank J. Kelley
Attorney General
State of Michigan
Lansing, MI 48913 *

PRINCIPAL STAFF		
✓ X-1-181	✓	✓
V/RA	✓	✓
A/RA	✓	✓
RC	✓	✓
PAO	✓	✓
SGA	✓	✓
ENF	✓	✓

Dear Mr. Kelley:

This will acknowledge receipt of your letter of January 19, 1984. Your suggested solution to our Midland problem is not, in my opinion, the least cost solution for our customers and is therefore unacceptable. Further, I am not ready to sacrifice our stockholders.

Rate schedules are kind of tricky things subject to many interpretations and comparisons. To show that our rates are relatively high you like comparisons using industrial, commercial or larger-than-average-use residential customers. I like our average-use residential customer with three or more in the family. That comparison shows that we are one of the low-cost producers with 87% of all residential customers in the United States having higher bills than those served by Consumers Power Company. In both cases, however, the results are really due to rate manipulation.

A more telling measure is the average rate paid by all classes of customers. For calendar year 1983, average rates in some representative upper midwest cities were:

	<u>c/kWh</u>
Chicago, Illinois	7.56
Milwaukee, Wisconsin	6.08
Toledo, Ohio	6.89
Cleveland, Ohio	7.08
Detroit, Michigan	6.52

Consumers Power Company's comparable rate is 5.79c/kWh.

That report, I believe demonstrates our concern and commitment to providing cost-competitive service and indicates that our judgment regarding future generation should be given considerable weight.

While I agree with your numbers, of course the cost of power from Midland will be higher than our present system average. That would be true for a new plant whether it is fueled by coal, oil, natural gas, uranium, or perhaps; due, fundamentally, to today's inflated wage scales and not to prices, high interest and tax rates, and the cost of providing higher levels of public safety and environmental protection.

During the next ten years, 641 MW of base load coal-fired capacity reaches the service life when it can no longer be considered reliable generation, and 302 MW of peaking capacity reaches the end of its depreciable life. Midland Unit 2 is rated 786 MW net. The Michigan Public Service Commission estimates annual growth in demand of approximately 1%. We think it will be even higher. Meeting this growth will very likely require the spending of considerable sums to extend the life of existing units and require the burning of more oil and natural gas. In the last ten years, 1974 through 1983, the average annual growth in peak demand was 1.6% and 1983 over 1982 showed an increase of 7.2%.

A further concern regarding capacity is that our FERC licenses on 128 MW of hydro capacity run out in 1993. We will, of course, apply for an extension, but with the issue of municipal preference not settled we have no assurance that we will be successful.

What all this tells me is that we need Midland or some other plant. All of our studies show that the economic choice is Midland, provided its cost to complete can be controlled.

We are dealing with a serious problem - the future availability of an adequate supply of electricity at competitive rates - a situation that will affect the people of this State for years to come, and one none of us can or do take lightly. But, we better make sure that the course of action chosen is the correct choice, and not just an expedient one.

I look forward to discussing the situation with you and other State officials.

Yours very truly,


J. D. Selby

JDS/lrt

BCC: ✓ EJSchneidewind (3)
JBFalahee
WRBoris
SHHowell
JWReynolds
RMalcolm
LUShepard
LBLindemer (3)
RJFitzpatrick
GLHeins
SNSpring
IDPenson
HBWSchroeder
RAMatteson

STATE OF MICHIGAN
DEPARTMENT OF ATTORNEY GENERAL



STANLEY D. STEINBERG
Chief Assistant Attorney General

FRANK J. KELLEY
ATTORNEY GENERAL

JDS JUN 20 '84

LANSING
48913

January 19, 1984

Mr. John D. Selby
Chairman of the Board,
President & Chief Executive Officer
Consumers Power Company
212 West Michigan Ave.
Jackson, MI. 49201

Dear Mr. Selby:

I write to again urge you, and your Board of Directors,
to abandon the Midland nuclear plant project.

As you know, I have been urging cancellation of the Midland project since early 1980, at a time when Consumers Power had sunk "only" \$1.3 billion into the project. I exhausted every legal avenue in an effort to save Consumers Power investors and ratepayers from what is now generally recognized as the economic folly of continued Midland construction. In January 1982, as you know, the Michigan Supreme Court agreed with your position that the state is powerless to stop a utility from committing economic suicide in the financing of construction of unneeded and uneconomical electric power plants. But, the Supreme Court warned that utility investors proceed at their own risk, and must bear the loss if the power plant proves to be unneeded or uneconomical.

When I mounted my legal challenge to continued Midland construction in early 1980, Consumers Power had invested \$1.3 billion in Midland. Your Company had recently revised the estimated total cost of the Midland plant from \$1.67 billion to \$3.1 billion. Thus, instead of a "cost to go" of less than \$400 million, the remaining cost to complete the plant became \$1.8 billion, or seven times more than the plant's original total estimated cost of \$256 million.

Now, after four more years of construction, and a further investment of more than \$1.9 billion, the estimated cost of the plant has risen to the range of \$5-6 billion, meaning that it will take at least another \$1.8-2.8 billion to complete. The longer that construction goes on, and the more money Consumers Power puts into this plant, the more the amount of money remaining to be spent increases.

In the Midland financing case that went to the Supreme Court, your Company said in its Brief that an interruption of Midland construction could cause a further reduction of the Company's bond rating that would mean that the bonds would be considered "speculative", and that if such bonds could be sold, it would result in higher cost to ratepayers. The Company also told the Court that failure to timely complete the portion of the plant being built to supply steam to Dow Chemical Company threatens loss of Dow's facilities in Michigan, and "attendant calamitous effects on employment and the Michigan economy." Although the Court permitted Consumers Power to continue construction of the Midland plant without interruption, the Company's bonds have been downrated on several occasions since that time by the three major bond-rating agencies, and are now rated below investment grade, or "speculative", by all the agencies. In July 1983 Dow Chemical Company withdrew from its contract for steam from the Midland plant, thus rendering about 24% of the Midland investment useless and unneeded virtually overnight.

If the Midland plant were completed at a cost of \$5-6 billion, the cost of the power delivered to customers would be in excess of 20¢/kwh, compared to your present average price of about 6¢/kwh. In your pending application at the state Public Service Commission for a rate increase to take effect upon commercial operation of the first unit of Midland, you are requesting a rate increase equal to 42% of 1982 revenues for the first Midland unit alone, at the April 1983 Midland cost estimate, which you have subsequently said must be substantially increased.

Wednesday, the Detroit Free Press published an editorial entitled "MIDLAND: It's time to reconsider the prospects for a troubled nuclear plant", which said:

"Abandonment is no less risky a course. It, too, will cost Consumers' customers something. But as events in Illinois and Indiana have shown, it is no longer unthinkable. What is unthinkable is that we should end up with a \$6 billion plant whose prospects of winning a license from the NRC are dimming, and whose output would be unaffordable if it did.

"A successful solution at Midland has to do two things: Spare the state the costs and chaos of having Consumers Power slide into bankruptcy, and spare Consumers' customers from having to swallow the entire \$3.5 billion already sunk in the project, much less the additional billions that would be required to complete it. . . ."

I agree. Year-in and year-out, Consumers Power's rates to industrial, commercial, and larger-than-average residential customers are substantially higher than the average of the East-North Central Region of the United States, according to annual rate surveys by the Edison Electric Institute. Consumers Power service territory could not remain economically viable in the long run, with the magnitude of rate increases that would be required to fully compensate investors for a \$5-6 billion Midland plant. Your Company can probably still avoid financial reorganization by cancelling the Midland project now, as equity capital is sufficient to absorb the after-tax effect of a \$3.2 billion write-off. However, should the Company go forward with its plans to spend another \$800 million on Midland this year, and a like amount next year, the point will soon be reached where financial reorganization will be the only solution, whether done in or out of bankruptcy court. I believe you owe it to your bondholders and other creditors to not jeopardize their security, by continuing to throw good money after bad into the Midland project.

The action taken Monday by Public Service Company of Indiana, under circumstances similar to yours, demonstrates that a utility need not continue construction of a project that no

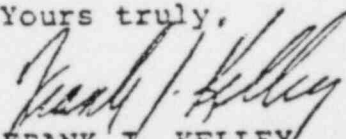
Mr. John D. Selby
Page -4-

longer makes economic sense, merely because billions of dollars have already been spent. PS Indiana had spent \$2.8 billion on the two-unit Marble Hill nuclear plant; but elected to follow the recommendation of Governor Robert O. Orr's task force that the project be cancelled. The task force recommended that common stock dividends be eliminated for a period of three years, and then be resumed at a rate equal to 35% of net income. PS Indiana promptly cut its dividend by 65%.

I commend the same course of action to you. Obviously, the common stockholders will have to swallow a bitter pill: elimination or drastic reduction of their dividends for many years to come. Consumers Power stock, which in the last year has fallen from \$22 to \$13/share, will probably decline further. Similarly, PS Indiana's stock price has fallen from \$27 to \$10/share. But the question is no longer whether the stockholders can be protected against loss; the question is now the timing and extent of the loss. It is much better to take the loss now, salvage something of the shareholders' investment, and lay the groundwork for future financial recovery; than to attempt to postpone the day of reckoning, and thereby run the very real risk of salvaging nothing for the common stockholders, diminishing or destroying the value of the preferred and preference stockholders' investment, and jeopardizing the security interest of the Company's creditors.

I stand ready, as I have in the past, to lend the assistance of my office in ameliorating the consequences of a decision to cancel the Midland project. But again, I urge you to act without delay in bringing a permanent halt to this unfortunate episode.

Yours truly,


FRANK J. KELLEY
Attorney General

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RF

~~Warrick~~
~~Harris~~
 LBP-84-20
 Sandner
 Landman

UNITED STATES OF AMERICA
 NUCLEAR REGULATORY COMMISSION
 ATOMIC SAFETY AND LICENSING BOARD
 Before Administrative Judges
 Charles Bechhoefer, Chairman
 Dr. Frederick P. Cowan
 Dr. Jerry Harbour

PRINCIPAL STAFF			
RA	✓	DRPP	✓
D/RA		DE	✓
A/RA		DRMSP	✓
SC		DRWA	
FAO		SCS	
ESA		ML	
ENF		FI	✓

In the Matter of
 CONSUMERS POWER COMPANY
 (Midland Plant, Units 1 and 2)

ASLBP Nos. 78-389-03 OL
 80-429-02 SP

Docket Nos. 50-329 OL
 50-330 OL

Docket Nos. 50-329 OM
 50-330 OM

May 7, 1984

MEMORANDUM AND ORDER
 (Ruling on Motions Arising from Dow Litigation)

On July 14, 1983, Dow Chemical Co. filed suit in the Circuit Court for the County of Midland, Michigan against Consumers Power Co. (hereinafter CPC or Applicant), seeking a declaratory judgment and monetary relief arising out of a contract under which the Applicant agreed to supply Dow with steam to be produced by the Midland facility. During our first hearing session in Midland, Michigan following that filing, Ms. Barbara Stamiris and Ms. Mary Sinclair, Intervenors in this consolidated proceeding, each filed a motion based on the Dow lawsuit. Ms. Stamiris seeks to litigate in the OM proceeding three contentions based on Dow's complaint (Dow contentions). Ms. Sinclair seeks to hold open the OM/OL record pending the completion of the Dow lawsuit.

MAY 14 1984

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The Applicant opposes litigation of all three of the Dow contentions. The NRC Staff would have us litigate all three of them. Both the Applicant and Staff oppose Ms. Sinclair's motion.

For reasons hereinafter set forth, we admit for litigation two of the three contentions proposed by Ms. Stamiris and decline to admit the third. We also deny Ms. Sinclair's motion, but without prejudice to her moving to supplement or reopen the record should the Dow lawsuit uncover information of significance to this proceeding and not a part of the existing record or the record to be developed hereafter.

I. Stamiris Motion

A. Ms. Stamiris' motion was presented orally on July 28, 1983 (Tr. 19358-65) and was followed by a written motion dated August 8, 1983 (corrected on August 12, 1983). As set forth in the written motion, Ms. Stamiris is seeking to litigate the following three contentions derived from the Dow lawsuit:¹

1. Consumers misrepresented its time schedule for completion of the Midland plants to the NRC, including the NRC Staff and this Licensing Board. See paragraphs 20, 37, 39-48.

¹ The July 14, 1983 complaint was dismissed by the Court sua sponte for procedural reasons on July 15, 1983, with directions to Dow to file a complaint complying with specified procedures within 10 days. Dow filed a First Amended Complaint on July 18, 1983. Paragraph references in the proposed contentions refer to paragraphs of the initial July 14, 1983 complaint (which is considerably more detailed than the First Amended Complaint).

2. Consumers used and relied on U.S. Testing test results to fulfill NRC regulatory requirements while knowing that these test results were invalid. See par. 24, 35.
3. Consumers knowingly represented to the NRC that the single test boring taken near the diesel generator building demonstrated that unmixed cohesive fill had been used as a foundation for safety-related structures at the site even though this test boring actually indicated that random fill had been improperly used in these areas. See par. 27.²

Ms. Stamiris further sought discovery on these contentions, both in the form of new discovery and as a claim that certain documents referenced in the Dow complaint had not been turned over to her in response to earlier discovery requests which, she claims, called for production of such documents.

On August 17, 1983, the Applicant filed a response (corrected on August 18, 1983) which offered to make available to parties the documents which it had provided to Dow ("Dow documents") and to which reference was made in the Dow complaint. The Applicant urged that we defer ruling on the contentions pending examination by the Intervenors of the Dow documents, and that, if Ms. Stamiris found it appropriate,

² This third contention was later restated as follows:

Consumers knowingly misrepresented to the NRC that a single test boring taken near the diesel generator building indicated that unmixed cohesive fill had been used, or alternatively, did not disclose to the NRC that the single test boring demonstrated the use of random, improperly compacted fill in the area and constituted evidence of site-wide problems.

Second Supplemental Memorandum, dated October 5, 1983.

she should thereafter supplement or resubmit her motion. On the merits, however, the Applicant set forth its grounds for opposing all three contentions.

In a telephone conference call on August 25, 1983, we heard arguments of all parties concerning the Applicant's response and we adopted the Applicant's suggestion that we defer ruling on Ms. Stamiris' proposed contentions and request for discovery until such time as all parties had had a chance to review the Dow documents. We also requested the Applicant to make available certain other documents. Memorandum and Order (Memorializing Telephone Conference Call of 8/25/83), dated August 29, 1983. On or about August 25, 1983, the Applicant made available the Dow documents; on September 14, 1983 it provided the additional documents identified by the Board.

Thereafter, on September 21, 1983, Ms. Stamiris filed a Supplemental Memorandum which, as a result of time constraints (Tr. 20792), was limited to the first of her contentions. On the same day, we held oral argument on all of her contentions, in which all parties participated (Tr. 20791-873). At that time, the Staff took the position that all three should be accepted (Tr. 20805-806). On October 5, 1983, with leave of the Board granted on September 23, 1983 (Tr. 21202), Ms. Stamiris filed a Second Supplemental Memorandum, in support of her second and third proposed contentions. The Applicant filed a written response on October 14, 1983 (corrected on October 17, 1983). We heard further argument on those contentions on October 31 (Tr. 21297-305).

During the early part of April, 1984, counsel for the Applicant and NRC Staff each telephoned the Board to advise us that each would be filing additional information bearing on the Dow contentions and to suggest that we defer our ruling on those contentions (which was then imminent) until we had received the additional information.³ We have followed that suggested course of action.

The first communication we received was a Board Notification from the Staff (BN 84-091), dated April 27, 1984, advising that an allegation regarding misrepresentation of soils data provided to NRC had been received, that it could be material and relevant both to QA/QC issues before us and to the proposed Dow contentions, and that the allegation was being referred to the Office of Investigations (OI) for evaluation. No additional identifying information was set forth, but we presume (from the reference to "soils data") that the information would have a bearing on the second or third proposed contention.

The second communication we received was a letter from the Applicant, dated April 30, 1984, advising that CPC had become aware of discrepancies in records of several borings made during the 1977 investigation of the settlement of the administration building. This information has a potential relevance to proposed contentions 2 and 3.⁴

³ The Applicant confirmed its telephone communication by letter dated April 17, 1984, which has been circulated to all parties.

⁴ Apparently this is not the information which the Applicant advised us by telephone was forthcoming.

Finally, by letter also dated April 30, 1984, the Applicant advised us that document discovery in the CPC-Dow litigation had brought to light certain Bechtel documents bearing on Bechtel Forecast 6 which, according to the Applicant, may be inconsistent with its response to Ms. Stamiris' motion. (This is the information about which the Applicant had earlier notified us.) The Applicant further advised that the Bechtel documents are subject to a protective order in the Dow litigation and cannot be released at this time. CPC suggests that we rule on the "Dow" issues without regard to the newly discovered information (although it offers to initiate the process under the protective order for disclosure of the documents, if we deem it necessary).

B. In proposing her contentions, Ms. Stamiris asserts that all three of them bear on her already-admitted management attitude contentions and that, accordingly, the record should be supplemented or reopened to incorporate the newly developed information brought out by the Dow complaint. In her written motion, she asserts that, in considering her proposals, we should act under our inherent authority to shape the course of proceedings over which we preside (citing, inter alia, Offshore Power Systems (Floating Nuclear Power Plants), ALAB-489, 8 NRC 194, 201-08 (1978); 10 CFR § 2.718(e); and 5 U.S.C. § 556(c)).

In contrast, the Applicant regards the first contention as a new contention and thus subject to the requirements for late-filed contentions set forth in 10 CFR § 2.714(a). With respect to the second and third contentions, the Applicant would utilize the standards for

reopening a record. In asserting that we should consider all three new issues, the Staff does not definitively spell out what standards we should utilize.

We recognize that Ms. Stamiris has raised a number of management-attitude issues in this proceeding and that her first issue here bears ultimately on that subject. Nonetheless, the subject matter of her other management-attitude contentions--i.e., "providing information [to NRC] relevant to health and safety standards with respect to resolving the soil settlement problems" (OM Contention 1), and implementation of the QA program with respect to soil settlement issues (OM Contention 3)--is far removed from the scheduling representations on which the first proposed contention is founded. In admitting Ms. Stamiris' earlier management-attitude contentions, we explicitly limited their managerial-attitude aspects "to factors which could be said to bear upon the Applicant's managerial attitude in resolving [soil settlement] issues." Prehearing Conference Order, dated October 24, 1980, at 4 (unpublished). The management attitude alleged in the first proposed contention (as well as in the material false statement alleged in the Modification Order) may be analogous to (and hence have some bearing on) the attitude alleged in OM Contentions 1 and 3, but the technical subject matter is disparate enough that the first proposed contention must properly be deemed a new contention.

That being so, we seriously doubt whether we could employ our general authority to shape the course of a proceeding as the foundation for accepting such a new contention, particularly since the Commission

has in place explicit standards for dealing with new "late-filed" contentions. 10 CFR § 2.714(a).⁵ We thus will apply the standards for late-filed contentions in determining whether the first proposed contention should be accepted.

As for the second and third contentions, both raise allegedly new information bearing on issues already litigated. Ms. Stamiris' motion for us to consider this information is in substance a motion to reopen the record on such issues. Because the Commission has explicit standards governing the reopening of the record of a proceeding to consider new information on issues already litigated, we decline to use our general authority to shape the course of a proceeding as the foundation for considering what in essence is a motion to reopen the record. We will instead consider the second and third contentions under standards for reopening the record.⁶

5 A "late filed" contention is any contention filed after 15 days prior to the first special prehearing conference which (in the OM proceeding) was held in September, 1980. 10 CFR § 2.714(b); see Consumers Power Co. (Midland Plant, Units 1 and 2), LBP-82-63, 16 NRC 571, 576 (1982).

6 The Applicant would also have us apply the standards for reopening a record to the first contention (response, pp. 6-7, 28-29). If we regarded the contention as adding new information to matters already litigated, we would have done so (but would not apply standards for late-filed contentions). Since we regard the first proposed contention as a new contention, and since (as Ms. Stamiris points out, Tr. 20838) the OM record was not closed at the time it was filed, we decline to apply the standards for reopening a record to that contention.

The allegedly new information in these contentions was proffered prior to the close of the record on the segment of the proceeding in which the matters were litigated. For that reason, we will evaluate these contentions on the basis of the same standards we spelled out in ruling on motions of Ms. Stamiris and the Applicant earlier in this proceeding--i.e., whether the motion was timely and whether it presents important information regarding a significant issue. See Memorandum and Order (Denying Motion to Reopen Record on Containment Cracks), LBP-83-50, 18 NRC 242, 246-48 (1983); Applicant's Motion to Reopen and Supplement the Record on Sinclair Contention 14, dated October 28, 1983, at 1-3 (ruled upon favorably by Licensing Board at Tr. 22655-56).⁷ See also p. 18, infra.

C. We now turn to each of Ms. Stamiris' proposed contentions.

1. Inasmuch as we are considering Ms. Stamiris' first contention--which alleges that Consumers misrepresented to the NRC the time schedule for completion of the facility--as a late-filed contention, we must initially consider whether the contention meets

⁷ The circumstance that our ruling here follows the closing of the record of a major segment of the OM/OL proceeding does not alter the governing standards, which are based on the status of the record at the time the proposed contentions were first offered. Cf. Houston Lighting & Power Co. (South Texas Project, Units 1 and 2), LBP-84-13, 19 NRC ____, ____, n.43 (March 14, 1983) (slip p. 89, n.43).

normal contention requirements. If so, we must additionally consider the factors for late-filed contentions set forth in 10 CFR

§ 2.714(a)--i.e.:

- (i) Good cause, if any, for failure to file on time.
- (ii) The availability of other means whereby the petitioner's interest will be protected.
- (iii) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.
- (iv) The extent to which the petitioner's interest will be represented by existing parties.
- (v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

In applying these factors, we must determine whether application of all of the five factors, on balance, favors admission of the contention. Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 NRC 1041 (1983); see also Consumers Power Co. (Midland Plant, Units 1 and 2), LBP-82-63, 16 NRC 571, 576-78 (1982). In balancing the factors, however, we are not necessarily required to give the same weight to each one of them. Florida Power and Light Co. (St. Lucie Nuclear Power Plant, Unit 2), ALAB-420, 6 NRC 8, 22 (1977) (cited approvingly by the Commission in Catawba, CLI-83-19, supra, 17 NRC at 1046); Midland, LBP-82-63, supra, 16 NRC at 577. Where a proponent demonstrates "good cause" for late filing, the showing required on the other factors is decreased. St. Lucie, ALAB-420, supra, 6 NRC at 22; Wisconsin Public Service Co. (Kewaunee Nuclear Power Plant), LBP-78-24, 8 NRC 78, 83

(1978); cf. Nuclear Fuel Services, Inc. (West Valley Reprocessing Plant), CLI-75-4, 1 NRC 273, 275 (1975).

Turning first to whether the normal contention requirements have been satisfied, the Commission's rules require that there be filed "contentions which petitioner seeks to have litigated * * *, and the bases for each contention set forth with reasonable specificity." 10 CFR § 2.714(b). The Applicant claims that Ms. Stamiris has not satisfied the basis and specificity requirements (response p. 28).

The basis asserted by Ms. Stamiris is primarily the first Dow complaint. The Applicant asserts that Ms. Stamiris should back up her accusations "with something more substantial than allegations made in a complaint" (id.). Back of this claim is its view that a complaint represents no more than unproved allegations--i.e., what a party hopes to prove--and may not be regarded as "new evidence" (id. at 14). At oral argument, the Applicant portrayed the complaint as "a lawyer's document * * * an advocate's piece" (Tr. 20841). The Applicant also emphasizes that it has denied the allegations of the complaint (response, p. 17). In short, the Applicant appears to be asserting that a complaint in a judicial action cannot serve as a basis for a contention, at least where its allegations have been denied.

We disagree. Under a long line of NRC holdings, we should not attempt to ascertain, prior to admitting a contention, the validity or merit of its bases, only whether the bases have been set forth with adequate specificity. Houston Lighting & Power Co. (Allens

Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542 (1980); Alabama Power Co. (Joseph M. Farley Nuclear Plant, Units 1 & 2), ALAB-182, 7 AEC 210, 216, reversed on other grounds, CLI-74-12, 7 AEC 203 (1974); Duquesne Light Co. (Beaver Valley Power Station, Unit 1), ALAB-109, 6 AEC 243, 244-45 (1973). Ms. Stamiris has not only identified the basis (the Dow complaint, which is a sworn document) but has identified the particular paragraphs of the Dow complaint which she asserts support her contention. She thus has set forth her basis with reasonable specificity.⁸

Moreover, in her first supplemental memorandum, Ms. Stamiris has pointed to several of the Dow documents which, she claims, support her contention. She discussed these documents during oral argument, pointing to how, in her opinion, they demonstrated that Consumers was not telling the full truth to NRC (Tr. 20792-98). By doing so, she has supplied additional bases for her contention. Moreover, although we cannot rule now on the sufficiency of those documents, we do note that they include information which, in our view,

⁸ In an earlier proceeding involving CPC, a Licensing Board considered allegations from a complaint in a suit filed in a U.S. District Court in determining whether to reopen the record. In denying the motion to reopen the record, the Board considered the allegations in the complaint in the light most favorable to the petitioner, without raising any question as to the propriety of relying on such allegations. CPC apparently did not raise any objections to consideration of the substance of the allegations of the complaint. Consumers Power Co. (Midland Plant, Units 1 and 2), LBP-75-6, 1 NRC 227, 229, affd., ALAB-283, 2 NRC 11 (1975), clarified, ALAB-315, 3 NRC 101 (1976).

at least represents a "showing * * * sufficient to require reasonable minds to inquire further" (cf. Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 554 (1978)).

In particular, we note that Bechtel Forecast 6, presented to CPC in January, 1980, calculated the fuel load date for Unit 2 (scheduled as the first to be completed) to be April 1984.⁹ A review of the Bechtel Forecast by a CPC staff team, dated May 5, 1980 ("Review Report"), analyzes several completion possibilities and concludes that, "even though we take minor exception to various sections of the estimate as presented, we generally agree with Bechtel both on schedule and cost, and are recommending a total project estimate based on the premise" (document 0014312, at 2). The document includes the statement (page 1 of transmittal letter) that "No distribution of the CPCo F/C #6 Review Report is being made outside of the Company."

Notwithstanding the recommendation of its staff, CPC management decided to retain July, 1983 as the target fuel load date for Unit 2 (document 0013524, also attachment 8 to Applicant's response). CPC also attempted to convince the NRC to structure its OL review on the basis of that target (document 00358). Whether the justifications advanced for that target date (e.g., documents 00234 and 00237) were reasonable is an appropriate topic for litigation. In addition, as Ms. Stamiris points out, some documents suggest that CPC may have maintained two schedules--one for internal use and another for

⁹ The Licensing Board and then-parties were first informed of Bechtel Forecast 6 by letter dated February 8, 1980.

others, including NRC (e.g., document 009546). Further, whether the Staff was aware of CPC's Review Report when it made its scheduling determinations in 1980, and whether (assuming it not to have had access to the report at that time) information in the report could have altered its scheduling determinations, are also appropriate subjects for litigation. The Bechtel documents about which CPC recently advised us also may be pertinent to this contention.

We recognize that, as the Applicant readily admits, the various documents may be subject to more than one interpretation. That being so, however, the proper way to resolve such interpretive uncertainties is through litigation of the contention. In short, we find that Ms. Stamiris' proposed Contention 1 sets forth appropriate bases with adequate specificity and hence satisfies the contention requirement of 10 CFR § 2.714(b).

Since we regard this contention as "late-filed," we turn to the factors for late-filed contentions which we must consider (see p. 10, supra). No party explicitly discussed these factors in its written submissions--Ms. Stamiris was relying on a different theory to support litigation of the contention and the Applicant believed it to be Ms. Stamiris' obligation to provide information in support of her contention (Tr. 20820, 20835). Nonetheless, through oral argument at

which all parties asserted their positions, we were able to develop sufficient information in order for us to balance the five factors.¹⁰

First, Ms. Stamiris has demonstrated "good cause" for her delay in filing the contention. The contention is based primarily on the Dow complaint, and it was submitted initially only two weeks after the Dow complaint was filed. It is noteworthy that CPC's Review Report, which in our view represents important information concerning CPC's truthfulness, was first made known to the Intervenors and Board (and, as far as we know, the Staff as well) after the filing of the Dow complaint in July, 1983.¹¹ This factor balances in favor of admission of the contention.

The second and fourth factors also balance in favor of admission of the contention. No other means are available for Ms. Stamiris to obtain the relief which we could grant if we were to find that Consumers did in fact knowingly misrepresent information to, or conceal information from, the NRC--i.e., license denial or conditions such as the replacement of particular personnel. Moreover, Ms. Stamiris

¹⁰ Ms. Stamiris offered to submit information in support of a "late-filed" contention, if we were to reject her theory that we could admit the issue through our authority to shape the course of a proceeding (motion at p. 7, n.2). Although we have rejected Ms. Stamiris' theory (pp. 7-8, supra), we have a sufficient record to perform the requisite balance of factors.

¹¹ We commend the Applicant's counsel for voluntarily providing this potentially damaging document to the Board and parties, through the Applicant's response to Ms. Stamiris' motion.

probably would not have standing to intervene in the Dow-Consumers lawsuit (Tr. 20856). Ms. Stamiris' interest will not be represented by existing parties since, absent our acceptance of the contention, there would be no issue in this proceeding raising the question of scheduling misrepresentations. Finally, although NRC's Office of Investigations could investigate alleged false statements, such an investigation (if it determined certain statements to be false) might in effect only postpone litigation of such statements. Both the Applicant and Ms. Stamiris oppose that method of resolving this issue (Tr. 20870-72).

In our view, Ms. Stamiris' participation may reasonably be expected to assist in developing a sound record on the question of management attitude. The basic issue will be the credibility of CPC's witnesses. In the past, Ms. Stamiris' cross-examination (and that of counsel who is to represent her on this issue) has been effective on questions of this type. She has also brought to our attention many pertinent documents bearing on such issues. We expect she would do so on this contention. Indeed, she has already identified a considerable quantity of particularized information regarding the substance of this contention. The third factor accordingly balances in favor of admission of the contention.

As all parties recognize, the litigation of this contention could consume considerable time and effort. The issues in the consolidated proceeding accordingly will be somewhat broadened. (The proponent of the contention views it as somewhat narrower than does the Applicant. See Tr. 20811-13.) Inasmuch as the fuel load date for

Unit 2 is now estimated by the Applicant to be July, 1986 (see letter to Board from the Applicant, dated April 12, 1984), we agree with Ms. Stamiris (Tr. 20851) that there should be no delay in concluding the proceeding prior to the fuel load date, whether or not we admit this contention. Reflecting the broadening of the proceeding, however, this factor balances slightly--but only slightly--against admission of the contention.

Given that the first four factors balance strongly in favor of admission of the contention and the last factor balances only slightly to the contrary, we believe that the balance of the five factors favors admission of the contention. Since the requirements for a litigatable contention have also been satisfied, we are accordingly admitting the contention. As we discussed with the parties (Tr. 20861-63, 22666), the period of time covered by the contention is to extend from the release of Bechtel's Forecast 6 in January, 1980, through November, 1983.

The parties discussed extensively whether the proposed contentions should be regarded as OM or OL contentions. In our view, the first could be regarded as a part of either proceeding, but the second and third are clearly OM contentions. Given consolidation, the allocation of contentions to a particular proceeding does not make too much difference. For convenience, we are numbering the contentions we are accepting as OM contentions. The first proposed contention will become OM Contention 6. Nevertheless, we expect to render decisions covering some OM issues prior to the completion of litigation of these

new contentions. Any decisions we make which could be influenced by the outcome of the new contentions will be expressly subject to change in light of that outcome. Moreover, the designation for convenience of the first contention as an OM issue is not to be taken as limiting the relief we could grant to that appropriate in the OM proceeding; relief in the OL proceeding may also be considered, to the extent appropriate (e.g., to the consideration of corporate character).

2. The second proposed contention alleges that the Applicant used and relied on test results provided by U.S. Testing Company to fulfill NRC requirements while knowing that these test results were invalid. That CPC used and relied on such test results is no secret: evidence to that effect has long been a part of the record of this proceeding (e.g., Stamiris Exh. 3, Attachments 9, 11 and 14; NRC Inspection Reports 78-20 and 80-32/33 (Attachments 2 and 3 to testimony of Gallagher, ff. Tr. 1754); Tr. 2438-39 (Gallagher)). The new allegation in this contention is that CPC knew that the U.S. Testing test results were invalid at the time it relied on these results before the NRC.

As we previously stated (p. 9, supra), in determining whether to reopen the record as of the time the motion was submitted, we must inquire whether the motion was timely and whether it presents important information regarding a significant issue. The Applicant claims that the motion with respect to this contention is "not timely" (response, p. 17) but provides no elaboration of its statement. It

finds its opposition largely on its argument that no "new evidence" justifying reopening of the record has been presented.

We disagree on both counts. In the first place, although the Applicant's truthfulness has been the subject of some earlier testimony, the allegation of CPC's knowledge of invalidity of the tests represents significant new information stemming from the filing of the first Dow complaint. The initial submission of Ms. Stamiris' contention two weeks later clearly satisfied the timeliness requirement.

More important, for reasons we have spelled out earlier (pp. 11-12, supra), we regard the Dow complaints, which are sworn documents, as valid bases for the contention. We need not determine the validity of the positions contained therein in order to rely on the complaints to reopen the record. Both complaints allege that Consumers knowingly relied on inaccurate information before the NRC. This information has a direct bearing on the management capability and attitude which we are evaluating in this proceeding, and it appears to differ from the information previously entered into the record.

Indeed, even though Ms. Stamiris is not required to satisfy the standard because of the time she filed her motion, we believe that, if proved, the alleged misstatements of information could significantly change the end result which we might otherwise reach. Thus, not only could such false statements, if proved, warrant severe sanctions but, in addition, they could signify a lack of management character sufficient to preclude an award of operating licenses, at least as long as the responsible individuals retained any

responsibilities for the project. South Texas, LBP-84-13, supra, 19 NRC at ___ (slip op., pp. 16-18), and cases cited, particularly Consumers Power Co. (Midland Plant, Units 1 and 2), CLI-83-2, 17 NRC 69, 70 (1983).

The Applicant directs our attention to the circumstance that the amended complaint (¶12) presents this claim only on "information and belief"; it also characterizes the claim as "absurd" in postulating that it would act contrary to its own interest by relying on test results known to be inaccurate (response, p. 14). We decline to resolve these positions at this time, since they go to the merits of the contention. We note, however, that "information and belief" pleadings are accorded considerable judicial stature (Wright & Miller, Federal Practice and Procedure: Civil § 1224). "[A] corporation [such as Dow] may find pleading on information and belief a useful form of allegation when its information has been received from subordinate employees within the firm" (id.). Further, we might also observe that what may be "absurd" from a corporate viewpoint may not necessarily be absurd from the individual viewpoint of a particular corporate official or agent.

Other information stemming from the documents provided to the parties and Board also supplies bases for this contention. For example, it appears that both CPC and Bechtel (CPC's agent) had knowledge of infirmities in certain U.S. Testing results some time around February, 1978. See letter from J. F. Newgen (Bechtel) to D. Edley (U.S. Testing), dated February 1, 1978 (copy received by Consumers on February 10, 1978) (Attachment 3 to Ms. Stamiris' Second Supplemental

Memorandum dated October 5, 1983). Although the document relates to tests performed for the administration building, it includes statements which could be construed as indicating Bechtel's awareness of a more pervasive failure of U.S. Testing to conform to testing specifications (Tr. 2573-74 (Gallagher)).

Nonetheless, the Applicant's testimony presented in July, 1981 indicated that, on the basis of borings taken from September 27-30, 1977, the Company determined that the grade beam failure of the administration building was localized. Keeley, ff. Tr. 1163, at 5. U.S. Testing was also said to have used similar procedures for a number of its tests throughout the site (Tr. 1263 (Keeley)). But CPC, in discussions with the NRC Staff as late as the summer of 1979, appears to have continued to portray the cause of the U.S. Testing inaccuracies with respect to the administration building borings as "administrative problems" (document 7908170390), despite knowledge of more severe problems as early as the fall of 1977 (Audit Report F-77-32, Board Exh. 3; Bechtel "Administration Building" Report dated December, 1977, document SB 13752). Indeed, the Staff was not even informed of the grade beam failure until December, 1978, despite the fact that the NRC's investigation into the diesel generator building settlement began in October, 1978 and the administration building settlement was considered

by some Staff members as indicative of soils compaction deficiencies in the area of the nearby DGB (Tr. 2336, 2341, 2412, 2345-47 (Gallagher)).¹²

The Staff also testified that it had no basis for concluding that information regarding the administration building (a non-safety structure) had been intentionally withheld from NRC (Tr. 2342, 2357 (Gallagher)). This proposed contention, if proved, could alter the record in this regard. For that reason, the information appears to be important to an issue which is also significant.¹³ Moreover, Ms. Stamiris initially filed her motion in a timely fashion, two weeks from the filing of the first Dow lawsuit. The standards for reopening the record have thus been clearly satisfied for this contention. We will admit this contention as OM Contention 7.

3. Ms. Stamiris' third proposed contention concerns a test boring taken near the DGB and analyzed by U.S. Testing Company. The analysis of this boring by U.S. Testing Company involves one or more of the tests alleged in the previous contention to have been falsified. The third contention is very close to the second in alleging that the Applicant knowingly misrepresented the results of the boring to the NRC.

¹² Apparently the Staff did not become aware of the February 1, 1978 letter to U.S. Testing until some time after December, 1978 (Tr. 2572-73 (Gallagher)).

¹³ The information about which the Staff informed us on April 27, 1984, and that concerning which the Applicant advised us in the April 30, 1984 communication which we discuss first (p. 5, *supra*) could also be relevant to this contention. We express no opinion on this matter at this time.

To the extent that this contention is based on information in the Dow complaint, it was submitted in a timely fashion. But unlike the previous contention, there is no significant allegation here that has not been previously addressed in this proceeding. The Applicant was already charged with making a material false statement that incorrectly indicated the placement of random fill rather than controlled compacted cohesive fill and has agreed not to contest that issue. For its part, the NRC Staff agreed that the material false statement was not made intentionally. Joint Exh. 6; Hood, et al., ff. Tr. 1560, at pp. 4-6.

Even more important, the boring log in question has been introduced into evidence and was the subject of extensive testimony. See Stamiris Exh. 19; Tr. 3437-41 (Peck) and 3589-3636 (Kane). Although the soil in question is different from what the FSAR represented, it nevertheless is competent soil (Tr. 3618-19 (Kane)).¹⁴ Either type would have been acceptable if it had been compacted correctly (Tr. 4426-27 (Kane, Hood)).

In short, all of the information in the bases relied upon by Ms. Stamiris appears to have already been considered in this proceeding. The Staff asserts that we should litigate this contention

¹⁴ We assume that, in giving this testimony, Mr. Kane took account of the hammer weight and fall in relying on the blow counts shown on Stamiris Exh. 19 and discussed by CPC in its letter to us of April 30, 1984. If not, we call upon the Staff to advise us promptly (with an appropriate affidavit, if necessary).

because of the allegation that, at the time of the boring in 1977, CPC knew the problem was site-wide and provided the NRC with incorrect information (Tr. 20806). An affirmative intent by the Applicant to mislead the NRC on a significant matter would, of course, be a serious indictment of the Applicant's managerial attitude. We read the contention (either in its initial or revised forms, see n.2, supra) as based on alleged misinformation about the soil type used for plant fill. Nothing in the bases relied upon by Ms. Stamiris in both versions of this contention would indicate that the types of materials utilized for plant fill was a site-wide problem. Indeed, we do not view the log itself as indicating any problem with the soil type, as alleged in both forms of this contention. For that reason, we do not perceive that Ms. Stamiris has brought to our attention with respect to this contention any significant new information of the type which would warrant a reopening of the record.¹⁵ Since standards for reopening the record on this contention have not been satisfied, we decline to reopen on this matter.

We note that the question of the Applicant's knowledge or lack of knowledge of the site-wide nature of any soils deficiencies is a

¹⁵ Unlike with respect to a new timely-filed contention, on a motion to reopen the record, we can give some consideration to the substance of the information sought to be added to the record. Vermont Yankee Nuclear Power Corp. (Vermont Yankee Station), ALAB-138, 6 AEC 520, 523-24 (1973); cf. Houston Lighting & Power Co. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542 (1980).

part of Ms. Stamiris' second contention which we are accepting. The question stressed by the Staff in supporting the third contention will thus likely be considered to some extent in our resolution of the second contention.

We also note that our ruling rejecting the third proposed contention does not take into account the information provided to us by the Applicant on April 30, 1984 (the first CPC communication of that date discussed on p. 5, supra), except with respect to the matter described in n. 14, supra. Nor does it consider the information provided to us by the Staff on April 27, 1984. Insofar as we can ascertain, we regard this new information as possibly relevant to the third proposed contention but more likely relevant either to matters heretofore litigated or, alternatively, to a potential contention comparable to the third proposed contention (i.e., knowledge of site-wide deficiencies) but premised not on whether information on soil type was withheld but rather on whether information was withheld as to the degree of compaction. We trust that the Applicant and/or Staff will keep us and the parties advised of any new information of this type which may develop.

4. Ms. Stamiris has asked for discovery on her proposed contentions, both in the form of documents allegedly not turned over to her previously and new discovery. We will not determine whether any documents should have been, but were not, turned over to Ms. Stamiris earlier. We note that, upon further checking, Ms. Stamiris discovered

that she had received certain of the documents she initially thought had not been turned over to her.

CPC has already voluntarily supplied many documents to the parties and Board. We believe that further discovery on the two admitted contentions is warranted, but only to the extent it seeks information or documents relevant to those contentions beyond what CPC has already supplied. The discovery we are permitting will be so limited.

In addition, to the extent we must evaluate discovery requests, we will consider, as within the proper scope of discovery, information tending to demonstrate, or leading to information that could demonstrate, whether CPC knowingly made false statements to the NRC (either the Staff or a Licensing Board). By "knowingly," we are including intentional falsehoods, intentional incomplete statements, intentional omissions, and statements made "with disregard for the truth." Houston Lighting and Power Co. (South Texas Project, Units 1 and 2), CLI-80-32, 12 NRC 281, 291 n.4 (1980); id., LBP-84-13, 19 NRC ___, ___ (March 14, 1984) (slip op., pp. 16-18). But whether CPC should have known that a statement was inaccurate or incomplete is not in itself a part of these contentions (although it may bear substantially on issues already admitted to this proceeding).

We are presently authorizing a four-month period for formal discovery, commencing on the date when the Applicant's reply findings on QA/management attitude issues are to be submitted (currently June 8, 1984). We direct that parties engaged in discovery on these two

contentions send us monthly reports (either individually or collectively) on the progress of discovery. (These reports should be filed on the first Monday-workday of each month, beginning in August, 1984.) Ms. Stamiris has requested four to six months for discovery (Tr. 20813, 20864); we will utilize these reports to determine whether additional discovery is warranted.

Bearing in mind the fact that these contentions are limited to knowing misrepresentations (as defined above), we would hope that the parties could agree (prior to trial of the issues) to a limitation of scope to matters clearly tending to demonstrate or suggest such knowing misrepresentations. We would also trust that the parties will attempt to develop methods for pre-trial settlement or dismissal of at least portions of these issues, to the extent appropriate. Such a course of action appears consistent with that favored by several parties at oral argument (Tr. 20806, 20814-15, 20865-68).

II. Sinclair Motion

Ms. Sinclair's motion was made orally (Tr. 19341-46, 19382-83) and followed by an almost identical written motion dated July 28, 1983. It seeks to have the record of this consolidated proceeding held open until the completion of the Dow lawsuit, on the ground that information may be obtained through discovery in that litigation "which will be pertinent to the issues of the OM and OL proceedings" and that it is important that "all available facts" relative to those issues be considered by us.

Ms. Sinclair spells out eight areas of inquiry where, she claims, "more information can be expected."

The Applicant opposed Ms. Sinclair's motion, both through an oral response (Tr. 19346-47) and in a written response dated August 17, 1983. The Staff also generally opposed Ms. Sinclair's motion, although it recognized one allegation of the Dow litigation (the scheduling matter) which should be litigated before us (Tr. 19350-52, 19356-57, 19397). Mr. Wendell H. Marshall, another Intervenor, supported Ms. Sinclair's motion by mailgram dated July 29, 1983.

We do not believe that the relief sought by Ms. Sinclair's motion is warranted. In the first place, Ms. Sinclair is only speculating at this time that the Dow lawsuit will lead to the discovery of significant information pertinent to the OM or OL proceeding which would not otherwise be incorporated into this record. Many of the issues in the Dow lawsuit are not particularly pertinent to matters before us. In that connection, the two new Stamiris contentions which we are accepting incorporate in our view the allegations of the Dow lawsuit most closely related to the matters at issue in the OM/OL proceeding. One of those contentions will litigate the scheduling allegation which the Staff, in commenting upon Ms. Sinclair's motion, found appropriate to consider in this proceeding.

Furthermore, if the Dow lawsuit should produce truly significant information not previously included in the record here and pertinent to the OM/OL proceeding, Ms. Sinclair could (depending on the status of this proceeding) move to supplement the record and incorporate it into

this proceeding, or to reopen the record of this proceeding, or (if, all levels of review within NRC have been completed) seek consideration of the matter under 10 CFR § 2.206.

Finally, the length of the Dow lawsuit, and hence the scope of relief being sought by Ms. Sinclair, is presently indeterminate. All proceedings, of course, even this one, must at some point come to an end. See United States v. Interstate Commerce Commission, 396 U.S. 491, 521 (1970). In our view, it would be "productive of little more than untoward delay" for us to freight the possible conclusion of the OM/OL proceeding with the uncertainties of the Dow lawsuit. Southern California Edison Co. (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-171, 7 AEC 37, 39 (1974); Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 747-48 (1977).

For these reasons, we are denying Ms. Sinclair's motion. This denial is without prejudice to Ms. Sinclair's seeking (to the extent appropriate) the other forms of relief which we have outlined, particularly to supplement or reopen the record before us.

III. ORDER

In light of the foregoing discussion and the entire record on the motions before us, it is, this 7th day of May, 1984

ORDERED

1. That Ms. Stamiris' motion to admit three new contentions is granted in part and denied in part. Proposed contentions 1 and 2, renumbered as OM Contentions 6 and 7, are admitted; proposed contention 3 is denied.

2. That discovery on new OM Contentions 6 and 7 is authorized to the extent indicated in part I.C.4 of this Memorandum and Order. Parties are directed to file reports as set forth therein (pp. 26-27, supra).

3. That Ms. Sinclair's motion to hold open the record of this proceeding pending completion of the Dow lawsuit is denied, without prejudice to Ms. Sinclair's later seeking (to the extent appropriate) to supplement or reopen the record before us.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

Charles Bechhoefer
Charles Bechhoefer, Chairman
ADMINISTRATIVE JUDGE



UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 WASHINGTON, D. C. 20555

R. Warnick
 R III

March 12, 1984

PRINCIPAL STAFF		
RA	fac	DPRP
D/RA		DE
A/RA		DRMSP
RC		DRMA
FAO		SCS
SGA		ML
ENF		File fac

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MEMORANDUM FOR: Stephen H. Lewis
 Regional Counsel, RIII

FROM: Dan M. Berkovitz
 Office of the General Counsel

SUBJECT: DOW LITIGATION (MIDLAND)

DMB

OGC has decided that it is in the agency's best interest not to permit any informal interviews with NRC employees by Dow Chemical. The attached letter to Carol Rice of Kirkland and Ellis, attorneys for Dow, explains our reasoning. NRC employees therefore should not speak informally with representatives of or attorneys for Dow Chemical or Consumers Power in connection with this lawsuit.

As a result of our decision to prohibit informal interviews, we anticipate that the NRC employees listed in your March 1, 1984 memorandum to me (Shafer to Maxwell) will be subpoenaed for formal testimony. Additional personnel familiar with Midland may also be subpoenaed. Carol Rice stated to me that Dow probably will try to take these depositions within the next several months. We shall try to avoid any undue burden on the agency by requiring a discovery plan as outlined in our letter.

Although NRC personnel can expect to be called to testify formally, at this point they should not spend any time in preparation for such an event. The extent to which persons should prepare for depositions in this private litigation will be determined when we have a better idea of the scope of NRC's involvement.

Attachment:
 Ltr, 3/9/84, Berkovitz
 to Rice

- cc: J. Lieberman, ELD
- R. Hartfield, RM
- G. Lear, SGEB, DE
- E. Adensam, LB, DOL
- J. Zerbe, OPE
- R. Lewis, RII

CONTACT:
 X-43224

MAR 19 1984

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

March 9, 1984

Ms. Carol Rice, Attorney
Kirkland & Ellis
200 E. Randolph Drive
Chicago, IL 60601

Dear Ms. Rice:

The purpose of this letter is to inform you of the Nuclear Regulatory Commission's position with respect to providing witnesses in Dow Chemical Company's lawsuit against Consumers Power Company regarding the Midland nuclear power plant. Although I realize that you are aware of the NRC's views on this matter through our conversations, perhaps this letter can serve as a clearer basis for NRC's future involvement and our further conversations.

The NRC recognizes that private litigants will often see a need to request information or testimony from NRC employees. Because providing witnesses for private litigation diverts agency resources to a purpose that is peripheral to the agency's mission, the NRC must be assured that acceding to such requests will not become unduly burdensome. The NRC generally responds to requests for such information or testimony in the following manner. Parties should scrutinize the files of the Public Document Rooms maintained by NRC for pertinent information and then provide detailed information in the form of a discovery plan setting forth: (1) names of persons necessary to be deposed or interviewed; (2) the specific subjects to be covered; (3) the time away from duty involved; and (4) any documents to be examined during the deposition or interview. If the agency is satisfied that the discovery is not unreasonably burdensome or violative of any statute, regulation, policy, or privilege, informal interviews or formal depositions may be obtained.

The Office of the General Counsel has decided not to agree to your request for informal interviews with NRC employees at this time. At this point we have no reason to believe that granting these interviews would result in any savings in time spent by the agency in this lawsuit. It would appear that any voluntary NRC assistance provided to Dow would not reasonably be denied to Consumers Power should they request it, as they probably would. This would double the resources committed to the informal process unless discussions with both parties present were arranged.

~~8400120576~~

March 9, 1984

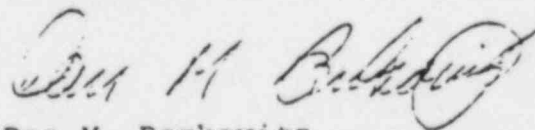
Because Consumers Power's application for an operating license is pending before the Commission and some of the issues in this lawsuit are related to those in the operating license hearing, invariably there would be requests from other participants in the licensing proceeding to be present at the interviews or to "discover" the information presented there. The matter thus promises to take on a complexity that could be unjustifiably burdensome for the NRC.

With respect to formal depositions, as noted above, under normal discovery rules the NRC is committed to providing relevant non-privileged testimony that is not unreasonably burdensome upon the agency. To determine whether NRC's involvement will be unreasonably burdensome, we will request that both parties provide the NRC with sufficient information along the lines described above before we agree to any depositions. If the agency determines there is unnecessary overlap in areas of inquiry, incorrect association of individuals with subject matter, or other unnecessary or privileged testimony being sought, we will seek to modify the plans. We believe that the preparation of such a plan is useful for both the agency and the parties. The information provided also can be used by each deponent to prepare for his deposition so that the actual time spent by each individual can be minimized.

We do not expect to treat these discovery plans as binding commitments limiting the scope of discovery. We do expect, however, that each party make reasonable estimates of the projected scope of discovery.

Unfortunately, NRC operates under severe budgetary and manpower constraints. The agency therefore must proceed with caution whenever involved with requests or responsibilities outside its primary duties. With an understanding of these concerns, I am sure we can proceed in a mutually satisfactory manner.

Sincerely,



Dan M. Berkovitz
Attorney
Office of the General Counsel

C. Landsman
LB, DOL



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

March 1, 1984

MEMORANDUM FOR: James G. Keppler, Regional Administrator
FROM: Stephen H. Lewis, Regional Counsel
SUBJECT: DOW LITIGATION (MIDLAND)

On February 29, 1984 Carol Rice of Kirkland & Ellis, representing Dow Chemical, called my office to speak with Dan Berkowitz (OGC) who was in Chicago on a deposition. I took the following information from Ms. Rice, which I have communicated to OGC by telephone.

Dow, at NRC's request, has identified the following NRC employees who they want to interview:

Wayne Shafer, RIII
Isa Yin, RIII
Bill Lovelace, RM
Ron Cook, RIII
Ron Gardner, RIII
Ross Landsman, RIII
Bob Warnick, RIII
Darl Hood, NRR
Joe Kane, NRR
Gene Gallagher, OPE
George Maxwell, RII

Additionally, she indicated they wanted to interview Gerry Phillip, a former Region III investigator.

OGC had requested this listing of NRC personnel Dow wished to interview because of concern that Dow would otherwise just "feel their way along" and NRC would end up with a great drain on its resources. This list and additional information provided by Ms. Rice confirms that there could be a substantial drain on NRC (and particularly RIII) resources to accommodate Dow's request.

The additional information is that Dow has already identified certain NRC personnel (she only identified you) who Dow already knows they want to depose. She further indicated that they might want to interview Jay Harrison, Bruce Burgess, Chuck Norelius, and Lee Spessard.

~~8406120580~~

James G. Keppler

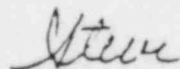
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I indicated to Ms. Rice that Region III was concerned about the substantial time commitment that would be involved in making all of the identified personnel available for interviews, particularly if the interviews led to a request from Consumers that they be interviewed and eventual depositions of some or all of these individuals. I suggested (I had previously discussed this with OGC) that as a preliminary step Dow submit a list of questions they wanted to pose and NRC could then determine who we would consider making available. She stated that Dow was reluctant to limit the areas it wanted to explore and was also reluctant to put any questions in writing (I gather because they do not want to run the risk of having to produce the questions upon a discovery request).

I indicated that I would pass along this information to OGC. She stated she would contact Mr. Berkovitz on March 2.

OGC will be representing NRC personnel in connection with any depositions in this Federal District Court litigation. I will coordinate with them, so that they are aware of Region III's position. Prior to that, I will schedule a meeting with you to discuss this matter further.



Stephen H. Lewis
Regional Counsel

cc: D. Berkovitz, OGC
J. Lieberman, ELD
R. Hartfield, RM
G. Lear, SGEB, DE
E. Adensam, LB, DOL
J. Zerbe, OPE
R. Lewis, RII
R. Warnick, RIII
C. Norelius, RIII
R. Spessard, RIII
A. Bert Davis, RIII

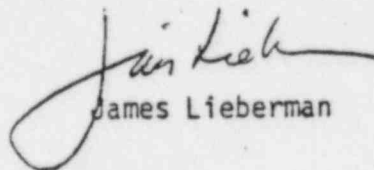
February 16, 1984

Note to: Darrell Eisenhut
Jim Keppler
Richard Hartfield

DOW-MIDLAND LITIGATION

PRINCIPAL STAFF		
✓ A	✓ DRRP	✓ Das
U/RA	DE	
A/RA	DRMSP	
PC	DRMA	
AG	SCS	OC's +3
GA	ML	
ENF	File	Das

For your information I received a call from Dan Berkovitz in OGC concerning a request by attorneys for Dow to interview NRC employees. They are interested in meeting with Messrs. W. Schaffer, W. Lovelace, and I. Yin. OGC is considering the request and will contact me before they make their decision.


James Lieberman

cc:
Guy Cunningham

FEB 21 1984

~~8406130009~~

Jay

① We received comments from NRR on CCP. Do you have them?

② Please call RA Gaska (517-636-0175) and either you talk to him (or some one who can responsibly represent DOW management) or else make arrangements for RFW to talk to DOW on 8/11 in the morning (2 10^{am} or 11^{am}). We want to know whether or not DOW has any knowledge of wrongdoing at Midland ~~with~~ other than what was in their letter of July 14, 83 from Gaska to Cook.

attorneys reluctant to discuss, issues are much too reluctant to case ^{TALE} leaving vs. Documents to Dow

③ Review proposed response to 2-206.

(517) 373-8690

④ Notify Ron Callen or Geo Carpenter of the ~~3~~ 3 ~~public~~ meetings next week.

⑤ Will you be in RIII on 8/17, 8-10am?
(Resident inspector seminar)

OK - the
Record -
8/8
Kindland
ellis

Jim Gould
866-3109



**Consumers
Power
Company**

Handwritten signature

James W Cook
Vice President - Projects, Engineering
and Construction

General Offices: 1945 West Parnell Road, Jackson, MI 49201 • (517) 788-0453

May 24, 1984

Mr Harold R Denton
Office of Nuclear Reactor Regulation
Division of Licensing
US Nuclear Regulatory Commission
Washington, DC 20555

PRINCIPAL STAFF			
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D/PP		DE	
A/PP		DRPP	
EC		DRPP	
PAO		BOS	
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MIDLAND ENERGY CENTER PROJECT
MIDLAND DOCKET NO 50-330
FILE 0485.2, 0485.11 SERIAL 29801

Attached hereto is an application for amendment to Construction Permit No CPR-82 for Unit II of the Midland facility. The application requests an extension to the construction completion date for Midland Unit II from July 1, 1984 to July 1, 1987. In accord with past practice, we are requesting an amendment running to a date one year past the July 1, 1986 announced fuel load date for Unit II.

This application for extension is limited to Unit II of the Midland facility. In 1983, Consumers Power Company curtailed construction of Unit I of the Midland facility except as necessary to support Unit II construction. Decisions with respect to Unit I of the facility are under review in light of a number of considerations, and the Company will take such steps as are deemed necessary with respect to the Unit I construction permit once such review is completed.

We enclose herewith a check in the amount of \$1,200 for a class II construction permit amendment, as specified by 10 CFR 170.22.

Thank you for your attention.

James W. Cook
James W Cook, Vice President,
Projects, Engineering and Construction

JWC/WFK/mdb

CC JGKepler, Administrator, Region III
RJCook, Midland Resident Inspector

MAY 29 1984

IC0584-0219A-MP04

~~8405300154~~

CONSUMERS POWER COMPANY
Midland Units 1 and 2
Docket No 50-329, 50-330

Letter Serial 29801 Dated May 24, 1984

At the request of the Commission and pursuant to the Atomic Energy Acts of 1954, and the Energy Reorganization Act of 1974, as amended and the Commission's Rules and Regulations thereunder, Consumers Power Company submits an application for extension of Midland Unit II Construction Permit.

CONSUMERS POWER COMPANY

By /s/ James W Cook
James W Cook, Vice President
Projects, Engineering and Construction

Sworn and subscribed before me this 25th day of May 1984.

 /s/ Patricia A Puffer
Notary Public
Bay
Jackson County, Michigan

My Commission Expires 3-4-86

(S E A L)

May 24, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
CONSUMERS POWER COMPANY) Docket No 50-330
)
(Midland Plant, Unit II))
_____)

APPLICATION FOR AMENDMENT TO
CONSTRUCTION PERMIT
NO CPR 82

Pursuant to 10 CFR 50.55(b) and 50.90, Consumers Power Company ("Permittee") hereby applies to the Nuclear Regulatory Commission for an amendment to Construction Permit No CPR-82 for Unit II of the Midland facility. Construction Permit No CPR-82 currently specifies July 1, 1984 as the latest date for completion of construction of the facility. Permittee's currently scheduled date for fuel load is July 1, 1986. In order to provide the time needed to finish Unit II and to provide additional contingency, Permittee respectfully requests that the Nuclear Regulatory Commission amend Permit CPR-82 to specify July 1, 1987 as the latest date for completion of Unit No II.

Permittee submits that good cause for granting the extension exists because of delays or projected scope increases due in part to the following factors:

1. In late 1982, Permittee revised its plans for completing the Midland facility by initiating a construction completion program. This program has resulted in construction delays and increases in the scope of inspections and other work needed to finish the Midland Plant in compliance with NRC requirements. On October 6, 1983, the Director of NRR issued an order incorporating the construction

completion program in the construction permits for the Midland facility, including CFR-82.

2. Certain systems or components were redesigned or modified to meet NRC requirements, such as those relating to 10 CFR 50, Appendix R or contained in NUREG 0737.
3. Applicant has experienced delays in its remedial soils program in order to meet expanded seismic criteria and other design, construction, or quality-related requirements of the NRC.

Permittee recently presented the basis for its latest schedule projections to the NRC Staff at a public meeting held in Midland, Michigan on May 4, 1984. By letter to the NRC dated May 14, 1984, Permittee submitted the slides presented at this meeting for the public record.

The extension of the latest completion date for the construction of Unit II does not present an unreviewed environmental impact or significant hazards consideration and is not inimical to the common defense and security or to the public health and safety.

Respectfully submitted,

CONSUMERS POWER COMPANY

By James W. Cook
James W Cook, Vice President
Projects Engineering and Construction



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 12, 1983

PRINCIPAL STAFF	
RA	DE
D/RA	DE
A/RA	DE
RC	DE
PAO	SCS
SGA	TL
ENF	FILE

Docket Nos: 50-329 OM, OL
and 50-330 OM, OL

Applicant: Consumers Power Company
 Facility: Midland Plant, Units 1 and 2
 Subject: Summary of September 12 and 13, 1983, Meeting
 on Structural Adequacy of the Diesel Generator
 Building

On September 12 and 13, 1983, a task force comprised of NRC structural engineers and NRC consultants from Brookhaven National Laboratory met at the Bechtel Offices in Ann Arbor, Michigan to discuss and audit structural design calculations of the Diesel Generator Building for Midland Plant, Units 1 and 2. The meeting is part of the re-evaluation described by Board Notification BN 83-109 dated July 27, 1983 (and subsequently by BN-142 dated September 22, 1983). Attachment 1 is a summary of the meeting and audit. Attachment 2 is an executive summary of the design of the Diesel Generator Building provided as a meeting handout. Attachments 3 and 4 provide a best fit polynomial matching the known settlement data which, at the request of the audit team, is to be used as input for a finite-element analysis by Bechtel. Results of the analysis are to be provided to Brookhaven.

A report by the task force will be issued in October 1983.

Darl S. Hood, Project Manager
 Licensing Branch No. 4
 Division of Licensing

Attachments:
As stated

cc: See next page

OCT 17 1983

~~8310210134~~

MIDLAND

Mr. J. W. Cook
Vice President
Consumers Power Company
1945 West Parnall Road
Jackson, Michigan 49201

cc: Michael I. Miller, Esq.
Ronald G. Zamarin, Esq.
Alan S. Farnell, Esq.
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James E. Brunner, Esq.
Consumers Power Company
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Ms. Mary Sinclair
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Stewart H. Freeman
Assistant Attorney General
State of Michigan Environmental
Protection Division
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Mr. Wendell Marshall
Route 10
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Mr. R. B. Borsum
Nuclear Power Generation Division
Babcock & Wilcox
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Mr. Steve Gadler
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U.S. Nuclear Regulatory Commission
Resident Inspectors Office
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Ms. Barbara Stamiris
5795 N. River
Freeland, Michigan 48623

Mr. Paul A. Perry, Secretary
Consumers Power Company
212 W. Michigan Avenue
Jackson, Michigan 49201

Mr. Walt Apley
c/o Mr. Max Clausen
Battelle Pacific North West Labs (PNWL)
Battelle Blvd.
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Mr. I. Charak, Manager
NRC Assistance Project
Argonne National Laboratory
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Argonne, Illinois 60439

James G. Keppler, Regional Administrator
U.S. Nuclear Regulatory Commission,
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Mr. J. W. Cook

- 2 -

cc: Mr. Ron Callen
Michigan Public Service Commission
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Lansing, Michigan 48909

Mr. Paul Rau
Midland Daily News
124 McDonald Street
Midland, Michigan 48640

Billie Pirner Garde
Director, Citizens Clinic
for Accountable Government
Government Accountability Project
Institute for Policy Studies
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Ms. Lynne Bernabei
Government Accountability Project
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Supplemental page to the Midland OM, OL Service List

Mr. J. W. Cook

- 3 -

cc: Commander, Naval Surface Weapons Center
ATTN: P. C. Huang
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Mr. L. J. Auge, Manager
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Energy Technology Engineering Center
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Canoga Park, California 91304

Mr. Neil Gehring
U.S. Corps of Engineers
NCEED - T
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Atomic Safety & Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

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Jerry Harbour, Esq.
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Geotechnical Engineers, Inc.
ATTN: Dr. Steve J. Poulos
1017 Main Street
Winchester, Massachusetts 01890



ATTACHMENT 1
UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SEP 29 1983

Docket Nos.: 50-329/330

MEMORANDUM FOR: George E. Lear, Chief
Structural and Geotechnical Engineering Branch
Division of Engineering

THRU: *gml* Pao-Tsin Kuo, Section Leader,
Structural Engineering Section B
Structural and Geotechnical Engineering Branch
Division of Engineering.

FROM: Norman D. Romney, Structural Engineer
Structural Engineering Section B
Structural and Geotechnical Engineering Branch
Division of Engineering

Chen P. Tan, Structural Engineer
Structural Engineering Section B
Structural and Geotechnical Engineering Branch
Division of Engineering

SUBJECT: TRIP REPORT - MIDLAND DGB STRUCTURAL DESIGN AUDIT

As part of the NRC task group review of the Landsman's concerns regarding the Midland Diesel Generator Building (DGB), N. D. Romney and C. P. Tan of the SGEB staff visited the Bechtel, Ann Arbor, Michigan offices on September 12 and 13, 1983. The purpose of the visit was to conduct an audit of the structural design calculations of the Midland DGB. Mr. Romney and Dr. Tan were assisted by NRC consultants from Brookhaven National Lab, represented by Drs. A. J. Philippacopoulos, C. Miller, and C. Costantino.

On Monday, September 12, 1983, the NRC task group reviewed the following DGB calculations:

- concrete/rebar stresses using settlement data by Karl Wiedner;
- straight line (rigid body) settlement by Karl Wiedner;
- concrete/rebar stresses assuming the DGB is supported at four points;
- stress totals from all load combinations;
- finite element modal for DGB.

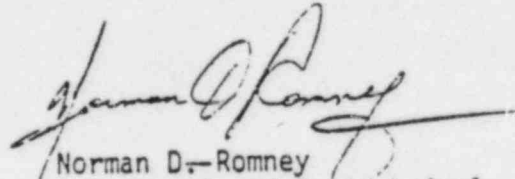
On Tuesday, September 13, 1983, the NRC task group reviewed calculations

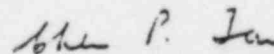
CONTACT: N. D. Romney, SGEB
X 28987

8310070007 XA

by Mete Sozen on rebar stresses estimated from concrete crack widths. In addition, the task group reviewed concrete pour data (sequence and date of pours) and settlement surveying procedures used on the DGB. The afternoon of September 13, 1983 was devoted to an interview of Mr. Ross Landsman of Region III by the NRC task group. The purpose of the interview was to gain a thorough understanding of Mr. Landsman's concerns regarding the DGB.

Enclosure 1 is a list of attendees for both days of the audit. Enclosure 2 was provided by Bechtel at the audit and is a chronological list of events before and after issuance of the NRC staff order modifying the construction permits.


Norman D. Romney
Structural and Geotechnical
Engineering Branch
Division of Engineering


Chen P. Tan
Structural and Geotechnical
Engineering Branch
Division of Engineering

Enclosures: As stated

cc: J. Knight
E. Adensam
✓ D. Hood
P. Kuo

ENCLOSURE 1

ATTENDEES

DIESEL GENERATOR BUILDING AUDIT
SEPTEMBER 12, 1983

H. Swanberg	Bechtel
J. A. Mooney	CPCO
N. D. Romney	NRC/DE/SGEB
Darl Hood	NRC/NRR/DL/LB4
Chen P. Tan	NRC/NRR/DE/SGEB
Carl J. Costantino	BNL
Charles A. Miller	BNL
A. J. Philippacopoulos	BNL
P. Shunmugavel	Bechtel —
B. Dhar	Bechtel
F. Villalta	CPCO
Ernie Koerke	CPCO
John Schaub	CPCO
Karl Wiedner	Bechtel-SF
K. Razdan	CPCO
A. Boos	Bechtel
G. Tuyenon	Bechtel
D. Reeves	Bechtel
D. Zanese	Bechtel
T. Kumbier	Bechtel
S. Afifi	Bechtel
T. R. Thirivengadam	CPCO

NRC AUDIT OF DIESEL GENERATOR BUILDINGS (DGB) MIDLAND
SEPTEMBER 13, 1983

<u>NAME</u>	<u>COMPANY</u>
J. A. Mooney	CPCO
T. R. Thirivengadam	CPCO
P. Shunmugavel	Bechtel
N. Ramanujam	CPCO
S. S. Afifi	Bechtel
John Schaub	CPCO
B. Dhar	Bechtel
K. L. Brorohn	CPCO
G. A. Zanese	Bechtel
Chen P. Tan	NRC/SGEB
Norman D. Romney	NRC/SGEB
A. J. Philippacopoulos	BNL
Charles A. Miller	BNL
Mete Sozen	Bechtel Consultant
Carl J. Costantino	BNL
Karl Wiedner	Bechtel
Darl Hood	NRC/NRR/DL
Fernando Villalta	CPCO
J. N. Leech	CPCO
N. Swanberg	Bechtel
C. Wilson	Bechtel

ENCLOSURE 2
 CHRONOLOGICAL LIST OF EVENTS BEFORE
 AND AFTER ISSUANCE OF NCR STAFF ORDER
 MODIFYING CONSTRUCTION PERMITS .

Date	Activity	Reference
<u>1975-1977</u>	Fill material is placed in vicinity of diesel generator building (DGB)	BLC-11412 (Final Report of MCAR 24)
<u>1977</u>		
October 5	Begin pouring the DGB foundations to el 630'-6" (see January 28, 1978)	SK-C-628
October 5	Poured foundation to el 630'-6" on south wall of bay 4, and south half of east wall of bay 4 (56 yards)	Pour DG (630.50)A
October 25	Poured foundation to el 630'-6" on north wall of bay 4, and north half of east wall of bay 4 (66 yards)	Pour DG (630.50)B
October 28	Poured foundation to el 630'-6" on south wall of bay 3, and south half of each wall of bay 3 (55 yards)	Pour DG (630.60)C
November 8	Poured foundation to el 630'-6" on north wall of bay 3, and north half of each wall of bay 3 (61 yards)	Pour DG (630.50)D
November 23	Poured sump base slab to el 627'-6" at southeast corner of bay 2 and southwest corner of bay 3 (33 yards)	Pour DG (627.50)A
December 13	Begin pouring the DGB walls to el 635'-0" (see February 20, 1978)	SK-C-628
December 13	Poured walls to el 634'-0" on north wall of bay 4, and north half of each wall of bay 4 (36 yards)	Pour DG (634.00)A'
December 16	Poured foundation to el 630'-6" on south face of bay 2, and south wall of each wall of bay 2 (60 yards)	Pour DG (630.50)F
December 20	Poured foundation to el 630'-6" on north wall of bay 1, and north half of west wall of bay 1 (56 yards)	Pour DG (630.50)G
December 22	Poured foundation to el 630'-6" on north wall of bay 2, and north half of each wall of bay 2 (61 yards)	Pour DG (630.50)E

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
December 28	Poured foundation to el 630'-6" on south wall of bay 1, and south half of west wall of Bay 1 (47 yards)	Pour DG (630.50)H
December 30	Poured sump base slab to el 627'-6" at south east corner of bay 1 and southwest corner of bay 2 (24 yards)	Pour DG (627.50)
December 30	Poured walls to el 635'-0" on south wall of bay 4, and south half of east wall of bay 4 (29 yards)	Pour DG (635.00)A'
<u>1978</u>		
January 4	Poured sump base slab to el 627'-6" at northeast corner of bay 1 and northwest corner of bay 2 (36 yards)	Pour DG (627.50)B
January 6	DG pedestal foundation in bay 4 is poured (190 yards)	Pour DG (637.53)A
January 16	Poured foundation to el 630'-6" in south half of east wall of bay 2 (61 yards)	Pour DG (630.50)I
January 19	Poured walls to el 634'-6" in north wall of bay 3 and north half of east wall of bay 3 (27 yards)	Pour DG (634.50)B'
January 25	Poured foundation to el 630'-6" in north half of each wall of bay 2 (45 yards)	Pour DG (630.50)J
January 25	Completed pouring the DGB foundations to el 630'-6" (see October 5, 1977)	SK-C-628
February 2	Poured walls to el 635'-0" in south wall of bay 3, and south half of east wall of bay 3 (46 yards)	Pour DG (635.00)B'
February 10	Poured walls to el 635'-0" in south wall of bay 1, and south half of west wall of bay 1 and south half of east wall of bay 1 (46 yards)	Pour DG (635.00)C'
February 14	DG pedestal foundation in bay 3 is poured (190 yards)	Pour DG (634.53)B
February 14	Poured walls to el 634'-6" in north wall of bay 2 and north half of east wall of bay 2 (29 yards)	Pour DG (634.5)C'

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
February 20	Poured walls to el 635'-0" in south wall of bay 2 and south half of east wall of bay 2 (28 yards)	Pour DG (635.00)D'
February 20	Poured wall to el 634'-6" in north wall of bay 1 and north half of west wall of bay 1 and north half of east wall of bay 1 (41 yards)	Pour DG (634.50)D'
February 20	Completed pouring DGB walls to el 634'-6" or 635'-0" (see December 13, 1978)	SK-C-628
March 8	DG pedestal foundation in bay 2 is poured (193 yards)	Pour DG (631.53)C
March 14	Began pouring second lift on walls to el 650'-0" or 654'-0" (see April 28, 1978)	SK-C-628
March 14	Poured wall to el 650'-0" on north wall of bay 4 and north half of east wall of bay 4 (89 yards)	Pour DG (650.00)A'
March 17	Poured wall to el 654'-0" on south wall of bay 4 and south half of east wall of bay 4 (92 yards)	Pour DG (654.00)A'
March 23	DG pedestal foundation in bay 1 is poured (192 yards)	Pour DG (637.53)D
March 28	First scribe mark is installed on DGB	File C-2045
March 29	Poured wall to el 650'-0" in north wall of bay 3 and north half of east wall of bay 3 (81 yards)	Pour DG (650.00)B'
April 4	Poured wall to el 654'-0" in south wall of bay 3 and south half of east wall of bay 3 (94 yards)	Pour DG (654.00)B'
April 11	Poured wall to el 650'-0" in north wall of bay 2 and north half of east wall of bay 2 (85 yards)	Pour DG (650.00)C'
April 14	Poured wall to el 654'-0" in south wall of bay 2 and south half of east wall of bay 2 (81 yards)	Pour DG (654.00)C'
April 24	Poured wall to el 650'-0" in north wall of bay 1, north half of east wall of bay 1, and north half of west wall of bay 1 (139 yards)	Pour DG (650.00)D

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
April 28	Poured wall to el 654'-0" in south wall of bay 1, south half of east wall of bay 1, and south half of west wall of bay 1 (156 yards)	Pour DG (654.00)D'
April 28	Completed pouring walls to el 654'-0" (see March 14, 1978)	SK-C-628
May 9	First settlement marker is installed on DGB	C/S File C-2645
May 12	Last scribe mark is placed on DGB	C/S File C-2645
July 7	First survey record taken on scribe marks	C/S file C-2645
July 10	Begin Pouring HVAC chamber slab (see August 22, 1978)	SK-C-628
July 10	Poured walls to el 656'-6" in south wall of bay 4 (26 yards)	Pour DG (656.50)A
July 10	Poured wall to el 651'-9" in north wall of bay 3 and bay 4 (22 yards)	Pour DG (651.75)A
July 17	Poured walls to el 656'-6" in north wall and south wall of bay 3 (42 yards)	Pour DG (656.50)B
July 21	Poured wall to el 662'-0" in north wall of bay 4, north half of west wall of bay 4, and north half of east wall of bay 4 (129 yards)	Pour DG (662.0)A'
July 26	Poured wall to el 656'-6" in north wall of bay 2 (23 yards)	Pour DG (656.50)C
July 27	Poured wall to el 656'-6" in south wall of bay 2 (23 yards)	Pour DG (656.50)D
August 3	Poured wall to el 656'-6" in north wall of bay 1 and south wall of bay 1 (45 yards)	Pour DG (656.50)E
August 7	Poured wall to el 662'-0" in north wall of bay 3 and north half of west wall of bay 3 (84 yards)	Pour DG (662.00)B'
August 8	Poured wall to el 662'-0" in north wall of bay 1, north half of east wall of bay 1, and north half of west wall of bay 1 (125 yards)	Pour DG (662.00)C'

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
August 15	Poured wall to el 662'-0" in south wall of bay 4, south half of east wall of bay 4, south half of west wall of bay 4, and east half of south wall of bay 3 (100 yards)	Pour DG (662.00)D'
August 18	Poured wall to el 662'-0" in east half of south wall in bay 2, west half of south wall in bay 3, and south half of east wall of bay 2 (61 yards)	Pour DG (662.00)F'
August 18	Poured wall to el 662'-0" in north wall of bay 2 (57 yards)	Pour DG (662.00)E'
August 18	Finished pouring HVAC chamber slab (see July 10, 1978)	
August 21	NCR 1482 (on soils issue) is generated	MCAR 24 Report 1
August 22	NRC inspector at Midland jobsite is informed of unusual DGB settlement	
August 23	DGB construction voluntarily halted	BEBC-2427
August 25	Soil boring program initiated	MCAR 24, Interim Report 1
September 7	NRC Region III is verbally informed of abnormal settlement of diesel generator building	NUREG-0793 (Appendix A)
September 7	MCAR 24 is issued (see September 1, 1981)	
September 27	Poured wall to el 662'-0" in south wall of bay 4, south half of west wall of bay 4, south half of east wall of bay 4, and west half of south wall of bay 3	
September 29	Interim Report 1 to MCAR 24 is forwarded to the NRC	Howe-183-78 (ref. BLC-6578)
November 7	Interim Report 2 to MCAR 24 is forwarded to the NRC	Howe-230-78
November 16	Construction activities resume on the DGB	BEBC-2547
November 16	Isolate electrical duct bank from the DGB in bay 3	SK-C-628

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
November 18	Isolate electrical duct bank from the DGB in bay 1	SK-C-628
November 21	Isolate electrical duct bank from the DGB in bay 4	SK-C-628
November 24	Isolate electrical duct bank from the DGB in bay 2	SK-C-628
December 4	Meeting held with NRC, CPCo, and Bechtel to inform NRC of current status of DGB settlement	MCAR Interim Report 3
December 12	Placed mezzanine floor to el 664'-0" in bay 4 (171 yards)	SK-C-628 Pour DG (664.00)A
December 19	Placed mezzanine floor to el 664'-0" in bay 3 (152 yards)	SK-C-628 Pour DG (664.00)B
December 20	Placed mezzanine floor to el 664'-0" in bay 1 (166 yards)	SK-C-628 Pour DG (664.00)C
December 21	NRC is informed of decision to preload DGB	Howe 267-78
December 28	Placed mezzanine floor to el 664'-0" in bay 2 (154 yards)	SK-C-628 Pour DG (664.00)D
<u>1979</u>		
January 5	Interim Report 3 to MCAR 24 is forwarded to the NRC	Howe-1-79
January 5	Poured wall to el 681'-6" in north wall of bay 4 and north half of east wall of bay 4 (131 yards)	Pour DG (681.50)A'
January 10	Poured wall to el 680'-0" in north wall of bay 1 and north half of west wall of bay 1 (126 yards)	Pour DG (680.00)A'
January 12	End of pond fill	MCAR Interim Report 2
January 16	First crack mapping of DGB completed	Memo from McConnel to Dhar

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
January 18	Poured wall to el 678'-3" in north wall of bay 3, north half of west wall of bay 3, and north half of east of bay 3 (143 yards)	Pour DG (678.25)A'
January 24	Poured wall to el 678'-3" in north wall of bay 2, and north half of west wall of bay 2 (98 yards)	Pour DG (678.25)B'
January 26	Beginning of surcharging (completed on April 6, 1979) in accordance with Specification 7220-C-81	
January 31	Condensate lines 20"-1HCD-169, 6"-1HCD-513, and 6"-2HCD-513 were cut loose on the south side of the turbine building. Horizontal movement of 3 to 4 inches to the west was observed.	Field Engineers Report 1/31/79
February 1	Condensate line 20"-2HCD-169 was cut loose on the south side of the turbine building.	Field Engineers Report 2/1/79
February 10	Last settlement marker is installed on DGB (see March 28, 1978)	IOM, C. Dirnbau to S. Rao, 2/10/81
February 15	Preparatory work for installation of strain gage monitors in the turbine building wall started today. Strain gages are being installed in accordance with Specification 7220-C-83.	Field Engineers Report 2/15/79 by J. Wasylewsk
February 20	Poured wall to el 678'-3" in south wall of bays 1, 2, 3, and 4; poured south half of all north-south walls (476 yards)	Pour DG (678.25)C'
February 20	Completed pouring walls to el 678'-3" (started on January 5, 1979)	SK-C-628
February 23	Installation of strain gage monitors for Q line wall of turbine building is completed. Installation is in accordance with Specification 7220-C-83 (see February 15, 1979)	Field Engineers Report 2/23/79 by J. Wasylewsk
February 23	Interim Report 4 to MCAK 24 is forwarded to the NRC	Howe-58-79

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
March 5	All surcharge activities through Step III of Table I on Drawing 7220-C-1141(Q) have been completed. Surcharge placement is suspended until March 22, 1979, to observe effect of surcharge placed to date (surcharge approximate elevation is 644'-0")	Field Engineer Report 3/5/79 by J. Wasylews
March 6	NRC visits jobsite to observe pre-loading program for consolidation of backfill under DGB	NUREG-0793 (Appendix A)
March 8	Commence placing roof and parapet to el 681'-6" (completed on March 22, 1979) (401 yards)	SK-C-628
March 21	NRC initiates 10 CFR 50.54(f) Requests Regarding <u>Plant</u> Fill	Telecopy from Denton to Howe
March 22	Temporary settlement markers were installed	IOM, C. Dirnbau to S. Rao, 2/10/81
March 22	Placing of surcharge resumes in accordance with Step V of Drawing 7220-C-1141(Q) (see March 5, 1979). Roof and parapet completed, i.e., last of DG has been poured (see March 8, 1979)	BEBC-2806
April 7	Placement of surcharge is completed (began on January 26, 1979)	Field Engineers Report 4/7/79 by J. Wasylews
April 24	Applicant submits response to Requests Regarding Plant Fill, 10 CFR 50.54(f)	
April 30	Interim Report 5 to MCAR 24 is forwarded to the NRC	Howe-132-79
May 9	All pedestal markers are installed	IOM, C. Dirnbau to S. Rao, 2/10/81
May 31	Applicant submits Revision 1 of Responses to NRC Requests Regarding Plant Fill, 10 CFR 50.54(f)	
June 25	Interim Report 6 to MCAR 24 is forwarded to the NRC	Howe-174-79

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
July 9	Applicant submits Revision 2 of Responses to Requests Regarding Plant Fill, 10 CFR 50.54(f)	
August 15	Removal of surcharge commences	
August 22	Construction activities resume on the DGB	
August 31	Removal of surcharge is complete	
September 5	Interim Report 7 to MCAR 24 is forwarded to the NRC	Howe-233-79
September 12	Survey readings are taken on both temporary and permanent markers and permanent markers and conversion	IOM, C. Dirnb to S. Rao, 2/10/81
September 13	Revision 3 of Responses to NRC Requests Regarding Plant Fill, 10 CFR 50.54(f), is forwarded to NRC	
September 19	Poured topping slab at 664 (25 yards) in bay 3	Pour DG (663.75)A
September 21	Poured topping slab at 664 (20 yards) in bay 4	Pour DG (663.67)B
September 28	Poured topping slab at 664 (24 yards) in bay 2	Pour DG (663.83)A
October 2	Poured topping slab at 664 (23 yards) in bay 1	Pour DG (663.83)B
October 8	Poured curbs for removable roof plugs - all bays (18 yards)	Pour DG (680.58)A
October 16	Poured east-west ductbank in bay 1	Pour DG (632.58)A
October 22	Ann Arbor office allows field to reweld the condensate lines at the turbine building (see January 31 and February 1, 1979)	BEBC-3344
October 24	Poured east-west ductbank in bay 2	Pour DG (632.33)A
November 2	Interim Report 8 to MCAR 24 is forwarded to the NRC	Howe 284-79
November 13	Revision 4 of Responses to Requests Regarding Plant Fill, 10 CFR 50.54(f), is forwarded to NRC	

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
November 14	Initial site visit by Corps of Engineers	NUREG-0793 (Appendix A)
December 6	NRC staff issues order modifying the construction permits	
December	Crack mapping of DGB is again performed	
December 4	Poured removable roof plug in bay 1 (23 yards)	Pour DG (682.1)A
December 6	Poured removable roof plug in bay 2 (23 yards)	Pour DG (682.1)B
December 10	Poured removable roof plugs in bays 3 and 4 (44 yards)	Pour DG (682.1)C
<u>1980</u>		
February 13	Poured base mats for stair towers (14 yards)	Pour DG (634.33)A
February 15	Meeting with NRC to discuss soils preloading and dewatering program for fill under diesel generator building	NUREG-0793 (Appendix A)
February 29	Revision 5 of Responses to Requests Regarding Plant Fill, 10 CFR 50.54(f), is forwarded to NRC	
April 1	Revision 6 of Responses to Requests Regarding Plant Fill, 10 CFR 50.54(f), is forwarded to NRC	
May 5	Revision 7 of Responses to Requests Regarding Plant Fill, 10 CFR 50.54(f), is forwarded to NRC	
July 24 and 31	Poured mudmat for bay 2 base slab (30 yards)	Pour DB (633.08)A and DG(633.08)B
August 1	North half of el 634'-0" slab is poured in bay 2 (26 yards)	Pour DG (634.08)A
August 5	Poured mudmat for bay 1 base slab (33 yards)	Pour DG (633.03)C
August 12	South half of el 634'-0" slab is poured in bay 2 (39 yards)	Pour DG(634.08)E

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
August 15	Revision 8 of Responses to Requests Regarding Plant Fill, 10 CFR 50.54(f), is forwarded to NRC	
August 15	North half of el 634'-0" slab is poured in bay 1 (26 yards)	Pour DG(634.08
August 22	South half of el 634'-0" slab is poured in bay 1 (38 yards)	Pour DG(634.08
August 28	NRC and their consultants tour site	NUREG-0793 (Appendix A)
August 29	Begin grouting the gap between the DGE footing and the mud mat (see September 11, 1980)	REM C-2817
August 29	Grouting of the east footing of bay 3 begins; completed on August 29, 1980	Field Engineer Report 9/17/80 by J. Wasylews
September 2	Grouting of the north footing of bay 3 begins; completed on September 5, 1980	Field Engineer Report 9/17/80 by J. Wasylews
September 8	Grouting of the east footing of bay 4 begins; completed on September 11, 1980	Field Engineer Report 9/17/80 by J. Wasylews
September 9	Poured east-west ductbank in bay 4 (10 yards)	Pour DB(632.0)
September 11	Completed grouting of gap between building footing and mud mat (see August 29, 1980)	REM C-2817
September 11	Poured part of east-west ductbank in in bay 3 (10 yards)	Pour DG(630.0)
September 14	Revision 9 of Responses to Requests Regarding Plant Fill, 10 CFR 50.54(f), is forwarded to NRC	
September 19	Completed pouring east-west ductbank in bay 3 (16 yards)	Pour DG (632.0)B
September 24	Poured east side of bay 4 mudmat for base slab	Pour DG (632.92)A
September 29	Poured remainder of bay 4 mud mat for base slab	Pour DG (632.92)B
October 2	Poured mudmat for bay 3 base slab (28 yards)	Pour DG (633.92)A

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
October 7 to February 20	Oral depositions of NRC staff, CPCo BPC, and consultants (of NRC) during discovery for soils hearing	NUREG-0793 (Appendix A)
October 8	North half of el 634'-0" slab is poured in bay 4 (26 yards)	Pour DG(633.92)C
October 14	South half of el 634'-0" slab is poured in bay 4 (40 yards)	Pour DG(633.92)B
October 16	North half of el 634'-0" slab is poured in bay 3 (28 yards)	Pour DG(634.0)B
October 23	South half of el 634'-0" slab is poured in bay 3 (39 yards)	Pour DG(634.0)C
October 31	Diesel generator has been installed in bay 1	Geotechnical Trip Report (Com 037095)
November 13	Diesel generator has been installed in bay 2	Geotechnical Trip Report (Com 037095)
November 21	Revision 10 of Responses to Requests Regarding Plant Fill, 10 CFR 50.54(f), is submitted to NRC	
December 15	DG has been installed in bay 3	Geotechnical Trip Report (Com 037095)
<u>1981</u>		
February 5	DG has been installed in bay 4	Geotechnical Trip Report (Com 037095)
March 16	Revision 11 of Responses to Requests Regarding Plant Fill, 10 CFR 50.54(f), is submitted to NRC	CPCo letter Serial 11632
April 18	Calculation DQ-14(Q) is signed off at Revision 0. Calculation supports results presented in NRC Technical Audit of April 20 through 24	
April 20 to April 24	NRC performs structural technical audit of Midland Nuclear Power Plant	
April 16	Crack mapping of DGB is again performed	IOM, J.L. Hoek- water to B. Dhar (Com 028197)

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
July 7	Sent nodal forces to D. Green of Earthquake Engineering Services for input to ADINA analysis	IOM, L.H. Curtis to D. Green (Com _____)
July 13	Crack mapping results of DGB are forwarded to Ann Arbor office	IOM, J.L. Hockwater to B. Dhar (Com 036143)
July 17	Sent nodal forces to D. Green of EES for input to ADINA analysis	IOM, L.H. Curtis to D. Green (Com _____)
August 19	Preliminary Report on ADINA analysis is submitted to Bechtel by CYGNA (formerly IIS)	IOM, D. Green to L.H. Curtis (Com 039796)
August 31	Authorization is sought to retain M. Sozen as consultant	IOM, T.E. Johnson to E.A. Rumbough (Com 048581)
September 1	Final Report on MCAR 24 is submitted to CPCo	BLC-11412
September 10	Final Report on ADINA analysis is submitted to Bechtel by CYGNA (formerly EES)	IOM, D. Green to L.H. Curtis (Com 041955)
September 30	Meeting with NRC staff to discuss study of stresses in vicinity of crack in wall of DGB	IOM, F. Villalta to A.J. Boos (Com _____)
October 6 and 7	Meeting with NRC on underground pipes and DGB settlement measurements	NUREG-0793 (Appendix A)
October 16	Letter to NRC forwarding final reports on NRC structural audit open items	NUREG-0793 (Appendix A)
October 21	Technical Report, "Structural Stresses Induced by the Differential Settlement of the Diesel Generator Building" is submitted to the NRC	CPCo letter Serial 14316
October 26	Revision 12 of Response to NRC Requests Regarding Plant Fill is transmitted to NRC	CPCo letter Serial 14333
December 10	Meeting with NRC to discuss existing concrete cracks (N. Swanberg, T.E. Johnson, and M. Sozen present for Bechtel)	IOM, R.C. Bauman to A.J. Boos (Com 055320)

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
<u>1982</u>		
January 11	Meeting in Bethesda between NRC and consultants, CPCo, Bechtel, and its consultants to discuss cracks	
January 28	Calculation DQ-23(Q) is signed off at Revision O. Calculation DQ-23(Q) supports first drafts of Karl Wiedner's Public Hearing testimony (Settlement which was previously contained in FSAR load combinations is removed.)	
February 12	Report of Construction Technology Laboratories' (CTL) "Evaluation of Cracking in DGB at Midland Plant" is forwarded by CTL to CPCo	(Com 059271)
February 16	Report entitled Evaluation of the Effect on Structural Strength of Cracks in the Walls of the DGB by Mete A Sozen is forwarded to the NRC (RPC, Com 059799)	J. Mooney to H. Denton (CPCo Serial 15978)
February 23 to February 25	CPCo and Bechtel meet with NRC in Bethesda to discuss soils remedial actions	
February 25	NRC staff receives advance copy of K. Wiedner's draft testimony (January 8, 1982) on structural reanalysis of the DGB, excluding Appendix C	NUREG-0793 (Appendix A)
March 5	Crack survey of DGB east wall is completed	TOM, J.L. Hoekwater to B. Dhar (Com 061512)
April 19	ACRS Report is submitted to NRC	CPCo Letter Serial 16629
May 11	Safety Evaluation Report (SER) is issued by the NRC	NUREG-0793 (Appendix A)
June 2	Technical report revision (required as a result of meetings with NRC in Bethesda during February 23 and 25, 1982) is sent to CPCo	BLC-14356
June	Supplement 1 to SER is issued by the NRC	NUREG-0793

Chronological List of Events (Continued)

<u>Date</u>	<u>Activity</u>	<u>Reference</u>
June 25	Revision 13 of Responses to NRC Requests Regarding Plant Fill is transmitted to NRC	CPCo letter Serial 17916
June 28	FSAR Revision 44 is transmitted to NRC (Revision 44 is first revision of FSAR which physically includes four settlement equations of Response to Question 15 of the NRC Requests Regarding Plant Fill).	CPCo letter to NRC (J.W. Cook to H.R. Denton) Serial 17897
July 29 and July 30	NRC visits Ann Arbor office to discuss comments on NRC's draft Safety Evaluation Report	
September 2	Meeting held in Albuquerque, New Mexico to discuss the fifth draft of Dr. Peck's testimony (S. Affifi, K. Wiedner, J. Brenner, M. Miller, D.A. Zanese)	
September 23	Public Hearing Testimony of K. Wiedner is transmitted to lawyers (Isham, Lincoln & Beale) for distribution.	BPC letter to Isham, Lincoln & Beale
October	Supplement 2 to SER is issued by the NRC	NUREG-0793
December	Public Hearing in Midland Courthouse on Diesel Generator Building	
December 17	Revision 14 of Responses to NRC Requests Regarding Plant Fill is transmitted to NRC	CPCo letter Serial 20390
<u>1983</u>		
January 4	Dead load, live load, and settlement load stresses distributions are forwarded to R.P. Kennedy of Structural Mechanic Associates (SMA)	BPC letter to SMA (Com 100053)
January 21	Additional stress distributions are submitted to SMA (node coordinates and connectivity)	BPC letter to SMA (Com 102278)

Received 9/2/83
DSH

ATTACHMENT 2

August 24, 1983

MIDLAND PLANT UNITS 1 AND 2
DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY

With September 12, 1983 Addendum

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MIDLAND PLANT UNITS 1 AND 2
DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY

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Executive Summary

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MIDLAND PLANT UNITS 1 AND 2
DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY

I. BACKGROUND

A. GENERAL

A construction permit for Midland Plant Units 1 and 2 was issued by the Atomic Energy Commission on December 15, 1972. Soils-related problems were first identified in July 1978 when the settlement monitoring program detected excessive settlement of the diesel generator building (DGB). The DGB has a shallow foundation and is located at the southern end of the main power block as shown in the site plan (Figure ES-1). The building had settled more than was predicted for this stage of construction. Shortly thereafter, the applicant verbally reported the matter to the NRC site inspector, and formally reported it under 10 CFR 50.55(e) in September 1978.

B. LAYOUT

The DGB is a two-story, reinforced-concrete structure with three crosswalls that divide the structure into four cells; each cell contains a diesel generator unit. The building is supported on continuous footings that are founded at el 628' and rests on fill that extends down to approximately el 603'. Plan dimensions of the DGB are approximately 155' x 70' with a total internal height of approximately 44 feet as shown in Figure ES-2. Each diesel generator rests on a 6'-6"-thick, reinforced-concrete pedestal that is not structurally connected to the building foundation.

C. ORIGINAL DESIGN

1. Philosophies

The DGB is a Seismic Category I, safety-related structure designed to protect the diesel generators and associated equipment and to protect this equipment from extreme environmental conditions such as seismic events and tornado and wind loads. As a result of these requirements, a box-type, reinforced-concrete structure with thick walls and roof was chosen. The building is supported by strip or continuous footings. The diesel generators, supported on separate foundations, isolate the building from any potential vibration problem.

2. Structural Systems

In general, conventional and standard calculations were used to analyze and design the various components of the structural system. Computer analysis using the finite-element method was used in some cases such as the

Midland Diesel Generator Building
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settlement monitoring program detected settlements of 3.5 inches at the point of greatest settlement, compared to the design predictions of 3 inches for the 40 years of expected plant operation. It appeared that the building was settling due to the consolidation of the underlying fill and was being partially supported along the north portion by four electrical duct banks acting as vertical piers resting on the natural soil below the fill. Shortly thereafter, the applicant verbally reported the matter to the NRC site inspector, and formally reported it under 10 CFR 50.55(e) in September 1978.

Construction of the DGB was voluntarily stopped in August 1978 and a soil boring program was initiated to determine the quality of the backfill under the foundation. Drs. R.B. Peck and A.J. Hendron, Jr. were retained as consultants to advise on the selection and the execution of any remedial action.

The exploration program confirmed that the fill did not meet the specified compaction requirements and that it consisted of both cohesive soil and granular soil. Lean concrete was also used locally as backfill. The fill ranged from very soft to very stiff for cohesive soil and from very loose to dense for granular soil. At the time of the exploration, the groundwater level ranged from el 616' to el 622', and the cooling pond, located about 275 feet south of the building, had a water level at approximately el 622'.

On the basis of the consultants' recommendations and after a review of various alternatives, it was decided to surcharge the DGB and the surrounding area to accelerate settlement and consolidate the fill material. During November 1978, the duct banks (see Figure ES-2A) entering the DGB were isolated from the building so additional settlement due to surcharging and the additional deadweight of the structure to be constructed would not overstress these areas. Construction of the building was also resumed in November 1978 with the remainder of the concrete work on the building being essentially completed by the end of March 1979. Before the surcharge program began in January 1979, the utilities entering the DGB were isolated from the DGB so that settlement during surcharging would not overstress these areas. The utilities were reconnected after the surcharge program was completed in August 1979.

III. REMEDIAL PROGRAM

A. SURCHARGE PROGRAM

The purpose of the surcharge was to accelerate the settlement so that future settlement under the operating loads would be within tolerable limits. Furthermore, this procedure would permit a reliable estimate of the future settlement. Before the surcharge was placed, soil instrumentation was installed (see Table ES-1). The instrumentation was directed at monitoring settlement and pore water pressure in the fill.

Midland Diesel Generator Building
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building showed a maximum settlement of about 0.1 inch. This is less than the range of 0.2 to 0.5 inch, which was predicted on the basis of the previously mentioned straight-line extrapolation.

Following the start of dewatering activities in September 1980 up to December 31, 1981, the building settled 0.4 to 0.5 inch (see Figure ES-8) primarily due to lowering the groundwater table from approximately el 620' to el 595'. Between December 31, 1981, and June 1983, the building settled an additional 0.3 inch primarily due to further lowering of the groundwater table to approximately el 587'. As shown in Figure ES-6, these settlements display relatively steep slopes on the settlement-versus-log-time plot. However, when these data are compared with the observed settlements of the two Borros anchors BA-8 and BA-53 (see Figure ES-9) embedded in the natural soil below the structures, it is seen that most of the observed settlement of the building was due to deep settlement of the underlying natural soil caused by dewatering. When the uniform, deep-seated settlement of the natural soil (below el 603') due to dewatering is subtracted from the total building settlement, the resulting backfill settlement-versus-log-time plot (see Figure ES-10) displays a slope less than the one used for secondary consolidation settlement prediction. Therefore, the predictions of secondary consolidation settlement given in Figure ES-7 are conservative. Furthermore, any future dewatering settlements should be small because future drawdown would exceed the present magnitude by only small amounts.

Concern about liquefaction of the loose sand portions of the backfill is eliminated by permanent groundwater lowering. The settlement of the unsaturated sand because of ground shaking caused by earthquakes (shakedown settlement) was calculated on the basis of the approach described by Silver and Seed (Reference 2) and the recommendations on multidirectional shaking by Pyke, Seed, and Chan (Reference 3). The estimated shakedown settlement is approximately 1/4 to 1/2 inch for ground acceleration up to 0.19 g. The north side of the building will settle the maximum of 1/4 to 1/2 inch during the 0.19 g earthquake, whereas the south side will settle a negligible amount because there is a smaller thickness of sand under the south side of the DGB. Thus, the building will tend to rotate slightly toward the north during seismic shaking. To date, it has tended to rotate south during static settlement under the surcharge load due to the higher percentage of clay under the south side of the building.

Midland Diesel Generator Building Executive Summary

surface to el 615' and by a value of 850 ft/sec from el 615' to el 600'. These numbers were used to determine the shear wave velocity value used in the seismic analysis of the DGB.

E. SURCHARGE EFFECTIVENESS

Figure ES-12 presents a comparison between the pressures that existed during surcharge and those expected during the operating life of the structure. This comparison shows that at all depths in the fill, the pressures that existed during surcharge exceeded those that are expected while the structure is operational. Furthermore, all settlement-versus-log-time plots show that secondary consolidation has been reached. Therefore, the settlements predicted on the assumption that the surcharge remains in place for 40 years (see Figure ES-7) are conservative based on the fact that all loads added after surcharge removal, including those due to permanent dewatering, will be less than the surcharge loading at all depths.

F. SETTLEMENT MONITORING

The settlement of the diesel generator building will be monitored during plant operation. Survey measurements will be taken at least every 90 days during the first year of plant operation. Survey frequency for subsequent years will be established after evaluating measurements taken during the first year. Allowable total settlements, which are based on the predicted values, have been established for each of the settlement markers on the structure and pedestals. If 80% of the allowable settlement (settlement action limit) is reached, survey frequency will be increased to at least once every 60 days and an engineering evaluation will be performed. If the allowable settlements are exceeded, the plant will be shut down until the structure's safety can be established.

IV. STRUCTURAL REANALYSIS

A structural reanalysis was performed on the DGB to determine the settlement and surcharging effects on the building.

A. DESIGN CRITERIA

The DGB is predominately made from 4,000 psi concrete (except the roof slab, which is 5,000 psi concrete) reinforced with Grade 60 steel bars. The building was originally designed for the ACI code allowables.

The load combinations employed for the original analysis and design of the DGB are provided in FSAR Subsection 3.8.6.3. The original FSAR load combinations did not contain a settlement effects term (T). Four additional load combinations were

the boundary condition. Figure ES-13 illustrates an isometric view of the finite-element model.

2. Load Representation

The dead load is represented in the finite-element model by the acceleration due to gravity. The live load is represented by pressures applied to plate elements modeling the floors. Wind loads are represented by pressures on plate elements and concentrated nodal loads. Seismic loads are represented by accelerations and settlement effects are represented by the soil springs explained below.

3. Soils Springs

a) Short-Term Load Analysis

The overall translational soil impedances from the dynamic model are used to calculate soil springs in the finite-element analysis for short-term loads (i.e., wind, tornado, and seismic).

b) Analysis Without Settlement Effects

The analytical model for dead load and live load case without settlement effects was constructed by using large values for the soil springs.

c) Analysis for Settlement Effects

For long-term loadings with settlement effects, the structural reanalysis addresses four distinct time periods. A unique set of measured or estimated settlement values that corresponds to each of the following periods are used:

1) March 28, 1978, to August 15, 1978

The first scribe mark was placed on the structure on March 28, 1978. August 15, 1978, represents the closest survey date before halting DGB construction. The structure was partially completed to 26 feet (el 656'-6") above the top of the foundation. A long-hand analysis was used for calculating stresses.

2) August 15, 1978, to January 5, 1979

The duct banks were separated from the structure, and DGB construction activities resumed during this period. January 5, 1979, is the last survey date before the start of surcharge activities.

4. Analysis of Survey Data

An analysis of the survey data reveals that the data are not accurate enough to reflect the exact changes in the structural shape due to the settlement.

The results of a review of this survey data can be summarized as follows:

- a) The difference between consecutive measurements at a building location reveals both positive and negative values. The negative values indicate that the structure moved up or a potential inaccuracy in measurement existed. Because the structure cannot easily move up against its own weight, it is likely that a negative value indicates an inaccuracy in measurement.
- b) Review of relative displacements of the north and south walls show that the data vary irregularly. It cannot be concluded from these data that the structure developed differential settlement in the period considered.

c) Angle Variation Analysis

During the settlement period considered, random changes in algebraic sign exists for the vertical angle formed by three markers along the south wall of the DGB. Therefore, it can be concluded that the settlement of the structure during this period was mainly rigid body motion.

d) Warpage Analysis

The warpage across the structure was found to vary with time between positive and negative values. It can be concluded that the survey data are not sufficiently accurate to prove that the structure has developed differential settlement (warpage) across the corners.

Summarizing, the survey data analysis concludes that the existing data were not accurate enough for direct use in structural analysis and need to be modified, error bands were established to be between 0.125 inch and 0.225 inch for the four settlement periods. By smoothing the settlement vs time curves to compensate for the survey inaccuracies, the data reflect that the structure was experiencing mainly rigid body motion in the period during which settlement was measured.

junction of the south wall and the interior wall separating bays 3 and 4. Soil spring values were then linearly varied in the north as well as the east-west directions so that they returned to their original 40-year value within a distance of approximately 15 feet from the zero spring. It can be concluded from this analysis that the DGB can successfully span the assumed soft soil spot introduced without significantly increasing the stress levels.

E. EFFECTS OF CONCRETE CRACKS

A set of electrical duct banks located beneath the building foundation initially acted to restrain the even movement of the structure during fill settlement. A systematic crack pattern was observed in walls resting on the duct banks. Cracks in walls that do not rest on duct banks are attributable to the effect of restrained volume changes during curing and drying of the concrete. Cracks were first mapped after the duct banks were separated from the DGB and prior to surcharge placement. Another crack mapping of the DGB was performed after surcharge removal to ascertain the effect of surcharge.

The concrete cracks within the DGB were formally addressed in the response to Question 29 of the NRC Requests Regarding Plant Fill. In this response, the cause and significance of the concrete cracks in all structures were presented. Subsequently, during the NRC structural technical audit of April 1981, further discussion was held concerning the effects of the cracks and the additional stresses resulting from the concrete cracks. To evaluate the additional stresses associated with the concrete cracking, a number of analytical approaches have been used and the results forwarded to the NRC in the response to Question 40 of the NRC Requests Regarding Plant Fill. These results indicated that because these stresses are strain-induced secondary stresses, they do not affect the ultimate strength capacity of the cracked member.

In response to an NRC request for a nonlinear, finite-element analysis to evaluate the effects of cracks on the integrity of the DGB, an additional computer analysis of the DGB was performed. This analysis was performed using a finite-element program, Automated Dynamic Incremental Nonlinear Analysis (ADINA), which is a three-dimensional, nonlinear program capable of considering concrete crushing, cracking, crack widening, and reinforcement yielding. The east wall of the DGB was selected for the ADINA analysis. A crack was modeled into the east wall, and the ADINA analysis was performed for two governing load combinations. The analysis indicated that the effect of concrete cracks was localized and minor in nature. The results of this ADINA analysis were submitted to the NRC, followed by meetings with the NRC staff to discuss these results.

Midland Diesel Generator Building Executive Summary

the load distributions to the individual walls. The shear walls and diaphragms were evaluated for seismic loads combined with loads due to normal operating conditions predicted by static analyses.

Capacities for the shear walls were developed in accordance with the ultimate strength design provisions contained in ACI 349-80. Shear walls were checked for their ability to resist in-plane shears and overturning moments. Margin factors were determined for the selected walls based on comparisons of the loads due to seismic and normal operating conditions and the code ultimate strength capacities. The selected walls were found to be governed by overturning moment. The lowest code margin calculated was found to be 1.8. The SME must be increased by at least a factor of 2.2 before the code margin for any wall would be exceeded.

Diaphragm capacities were determined using ACI 349-80 criteria developed for shear walls. The diaphragms evaluated were found to be governed by shear. The lowest code margin for the diaphragms was found to be 2.0. For any diaphragm to reach code capacity, the SME must be increased by a factor of 2.1.

Code margins for the selected structural elements were all conservatively based on minimum specified material strengths and maximum seismic load cases. Reductions in loads to account for inelastic energy dissipation were not used for the DGB. All code margins were determined to be greater than unity. Before code capacity is reached for any DGB element investigated, the SME must be increased by 2.1. It can, therefore, be concluded that the DGB has more than sufficient structural capacity to resist the SME based on code criteria and significantly higher capacity before failure is expected.

V. CONCLUSIONS

The original design of the DGB, based on its overall geometry and layout, produced a structure with a great deal of reserve strength. The settlements during early stages of construction and during the surcharge program did not cause any unusual distress or significant loss of structural strength. The remedial program of surcharging the area with 20 feet of sand has caused the fill to now be under secondary consolidation. Future settlement can be conservatively predicted and will not be excessive. It has been shown through the soil exploration program that the fill material under the DGB does have sufficient reserve in bearing capacity to resist all the imposed loads with the proper safety factor. This area of the site is being permanently dewatered to eliminate any potential for liquefaction that could occur in the sand backfill below the DGB during a seismic event.

Midland Diesel Generator Building
Executive Summary

REFERENCES

1. H.B. Seed, "Soil Liquefaction and Cyclic Mobility Evaluation for Level Ground During Earthquakes," Journal of the Geotechnical Engineering Division, Proceedings of the American Society of Civil Engineers, Vol 105, No. GT2 (February 1979), Pages 201 through 255
2. M.L. Silver and H.B. Seed, The Behavior of Sands Under Seismic Loading Conditions, Earthquake Engineering Research Center, College of Engineering, University of California, Berkeley, California, December 1969
3. R. Pyke, B. Seed, and K.C. Chan, "Settlements of Sands under Multidirectional Shaking," Journal of Geotechnical Engineering Division, GT4, April 1975, Pages 379 through 397

TABLE ES-2

LOADS AND LOAD COMBINATIONS FOR CONCRETE
STRUCTURES OTHER THAN THE CONTAINMENT BUILDING
FROM THE FSAR AND QUESTION 15 OF RESPONSES TO
NRC REQUESTS REGARDING PLANT FILL

Responses to NRC Requests Regarding Plant Fill, Question 15

a. Service Load Condition

$$U = 1.05D + 1.28L + 1.05T \quad (1)$$

$$U = 1.4D + 1.4T \quad (2)$$

b. Severe Environmental Condition

$$U = 1.0D + 1.0L + 1.0W + 1.0T \quad (3)$$

$$U = 1.0D + 1.0L + 1.0E + 1.0T \quad (4)$$

FSAR Subsection 3.8.6.3

a. Normal Load Condition

$$U = 1.4D + 1.7L \quad (5)$$

b. Severe Environmental Condition

$$U = 1.25 (D + L + H_0 + E) + 1.0T_0 \quad (6)$$

$$U = 1.25 (D + L + H_0 + W) + 1.0T_0 \quad (7)$$

$$U = 0.9D + 1.25 (H_0 + E) + 1.0T_0 \quad (8)$$

$$U = 0.9D + 1.25 (H_0 + W) + 1.0T_0 \quad (9)$$

c. Shear Walls and Moment Resisting Frames

$$U = 1.4 (D + L + E) + 1.0T_0 + 1.25H_0 \quad (10)$$

$$U = 0.9D + 1.25E + 1.0T_0 + 1.25H_0 \quad (11)$$

d. Structural Elements Carrying Mainly Earthquake
Forces, Such as Equipment Supports

$$U = 1.0D + 1.0L + 1.8E + 1.0T_0 + 1.25H_0 \quad (12)$$

TABLE ES-3
 LOADS AND LOAD COMBINATIONS FOR
 COMPARISON ANALYSIS REQUESTED IN
 QUESTION 26 OF NRC REQUESTS
 REGARDING PLANT FILL

ACI 349 as Supplemented by Regulatory Guide 1.142

a. Normal Load Condition

$$U = 1.4 (D + T) + 1.7L + 1.7R_0$$

$$U = 0.75 [1.4 (D + T) + 1.7L + 1.7T_0 + 1.7R_0]$$

b. Severe Environmental Condition

$$U = 1.4 (D + T) + 1.4F + 1.7L + 1.7H + 1.9E_0 + 1.7R_0$$

$$U = 1.4 (D + T) + 1.4F + 1.7L + 1.7H + 1.7W + 1.7R_0$$

$$U = 0.75 [1.4 (D + T) + 1.4F + 1.7L + 1.7H + 1.9E_0 + 1.7T_0 + 1.7R_0]$$

$$U = 0.75 [1.4 (D + T) + 1.4F + 1.7L + 1.7H + 1.7W + 1.7T_0 + 1.7R_0]$$

c. Extreme Environmental Conditions

$$U = (D + T) + F + L + H + T_0 + R_0 + W_T$$

$$U = (D + T) + F + L + H + T_0 + R_0 + E_{SS}$$

d. Abnormal Load Conditions

$$U = (D + T) + F + L + H + T_A + R_A + 1.5P_A$$

$$U = (D + T) + F + L + H + T_A + R_A + 1.25P_A + 1.0(Y_R + Y_J + Y_M) + 1.25E_0$$

$$U = (D + T) + F + L + H + T_A + R_A + 1.0P_A + 1.0(Y_R + Y_J + Y_M) + 1.0E_{SS}$$

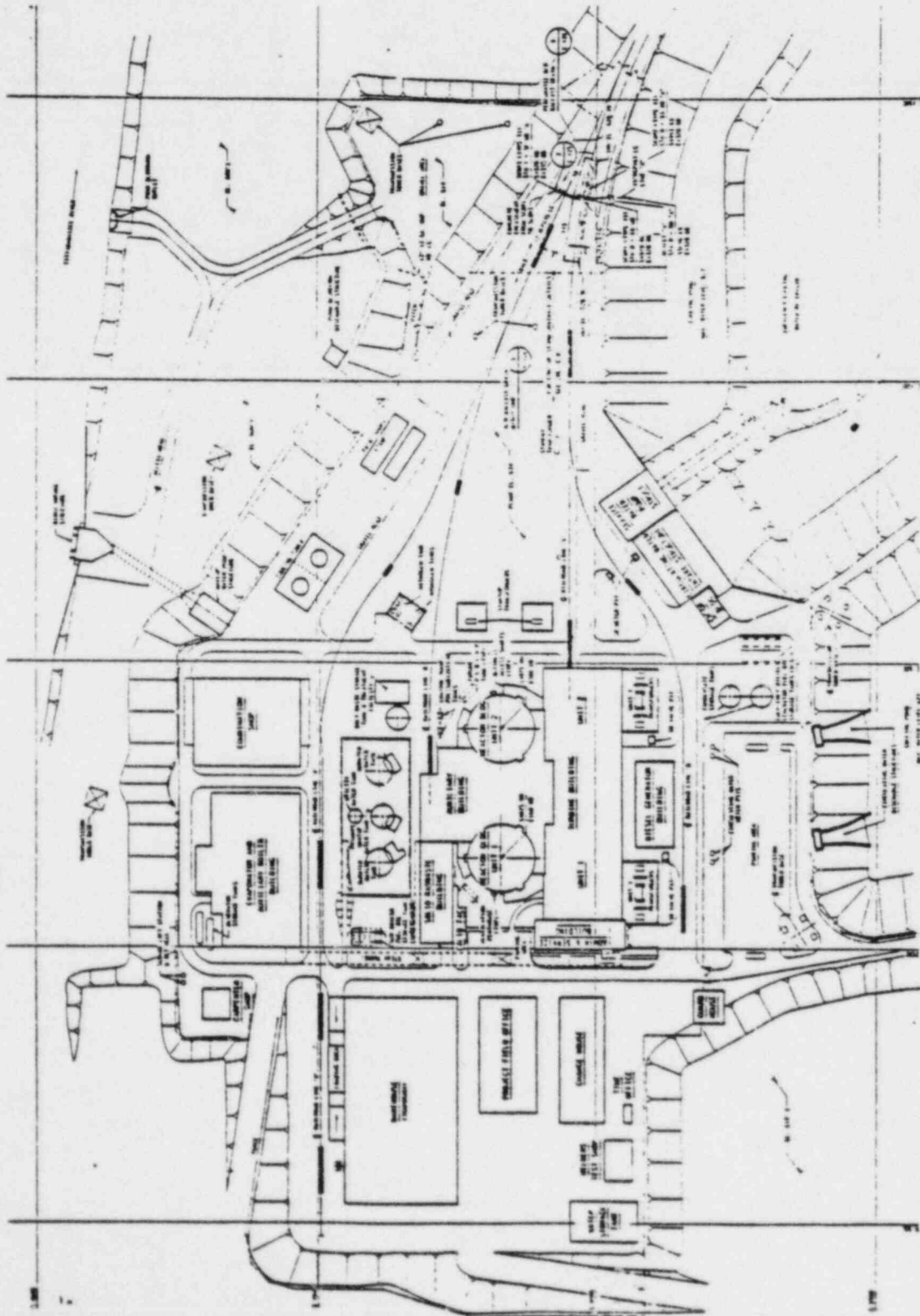
where

Normal loads are those loads encountered during normal plant operation and shutdown, and include:

T = settlement loads

Table ES-3 (continued)

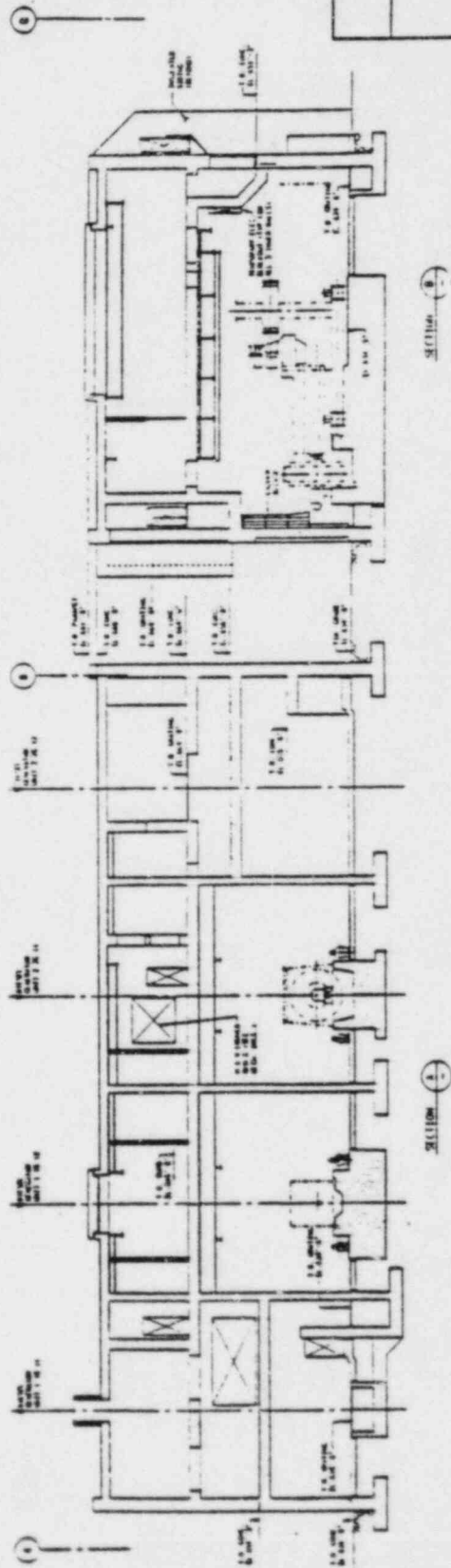
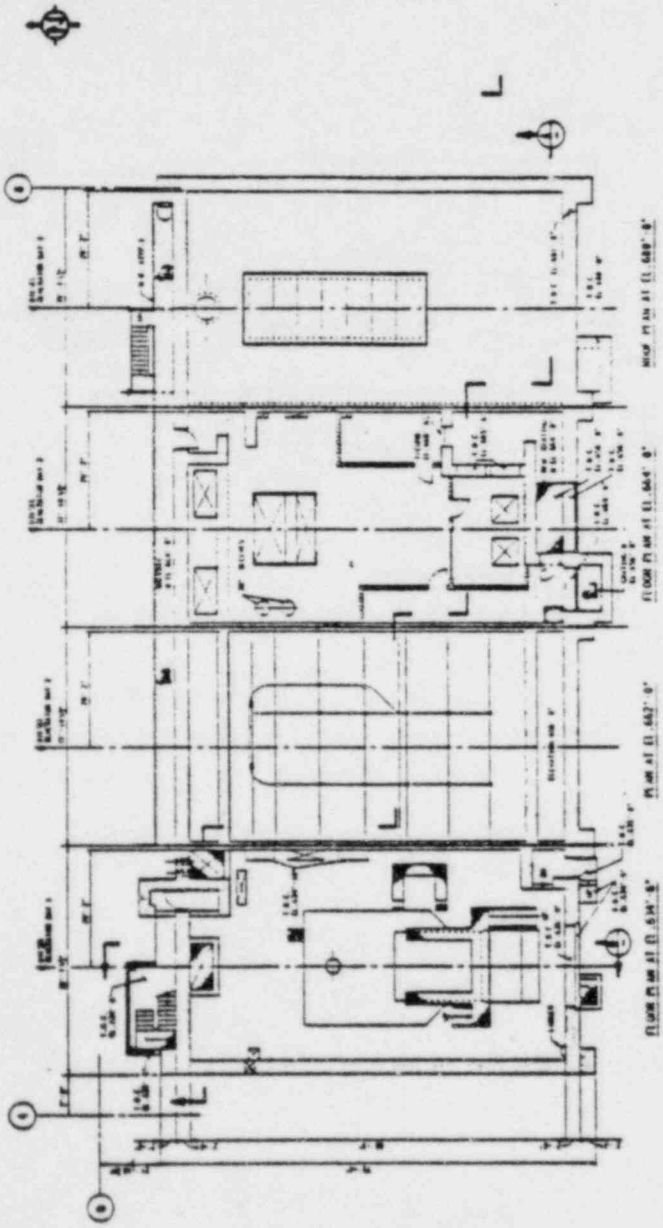
- Y_J = jet impingement load on a structure generated by a postulated break
- Y_M = missile impact load on a structure generated by or during a postulated break, such as pipe whipping



DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY

SITE PLAN OF MIDLAND
UNITS 1 AND 2 POWER PLANT

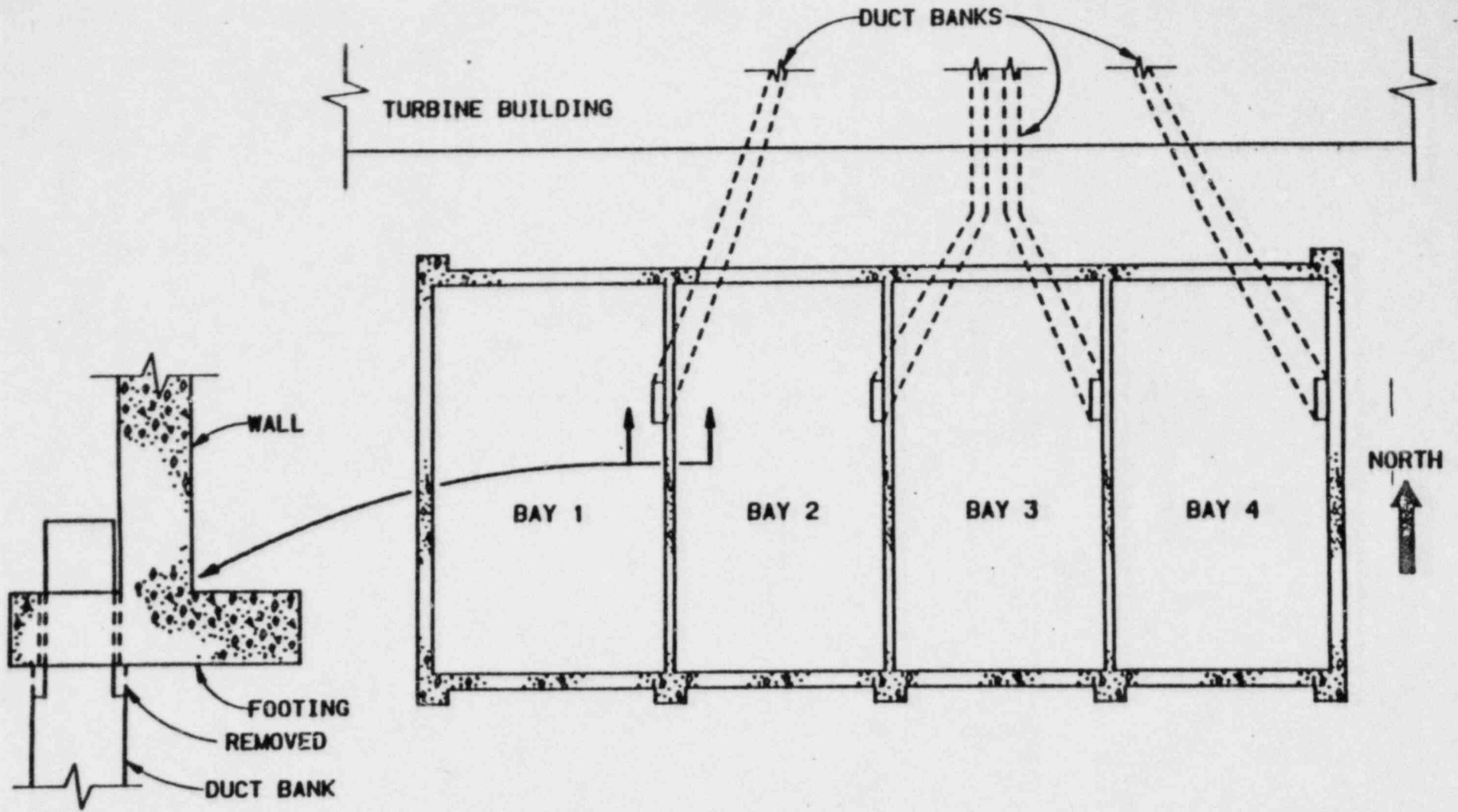
FIGURE ES-1



DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY

PLAN VIEW AND SECTIONS

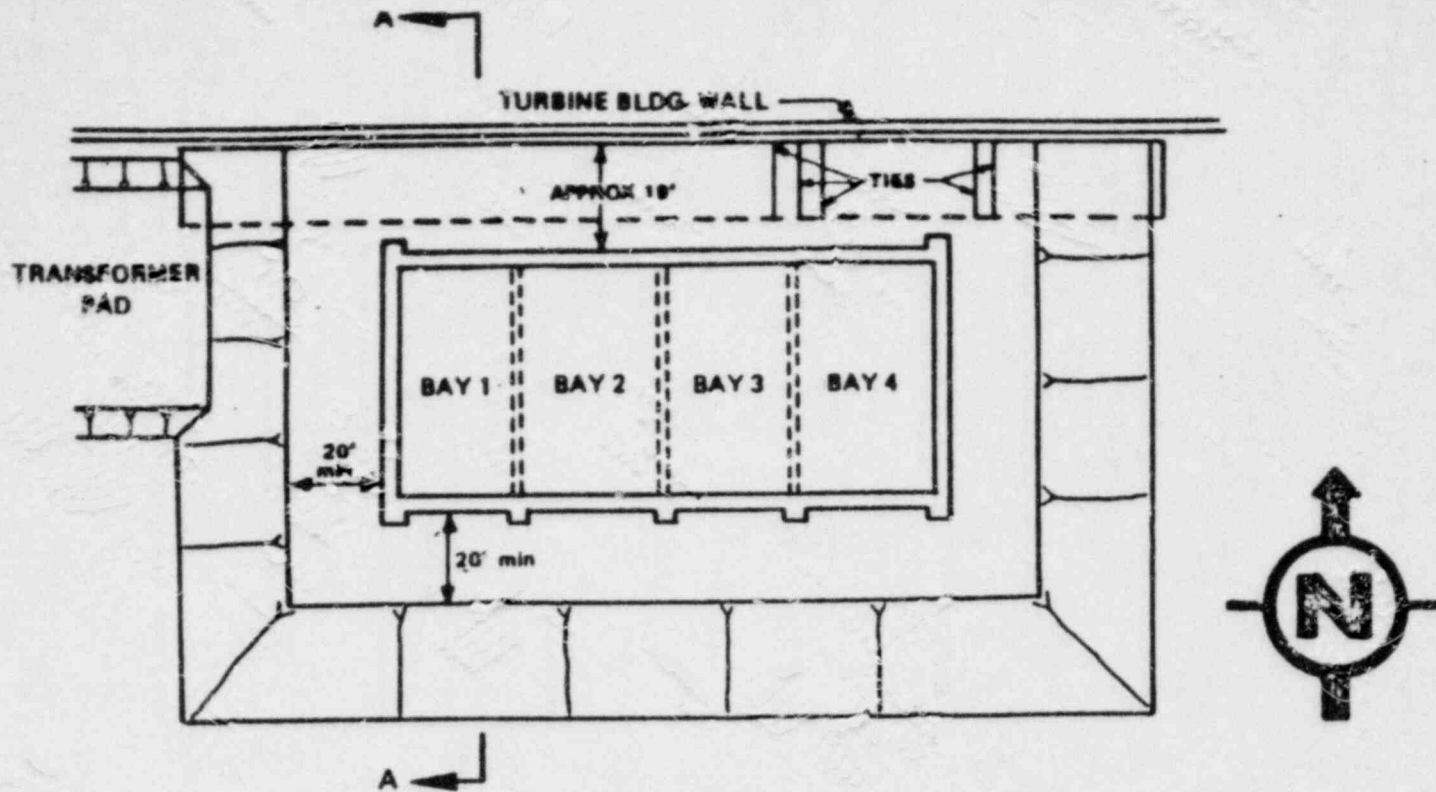
FIGURE ES-2



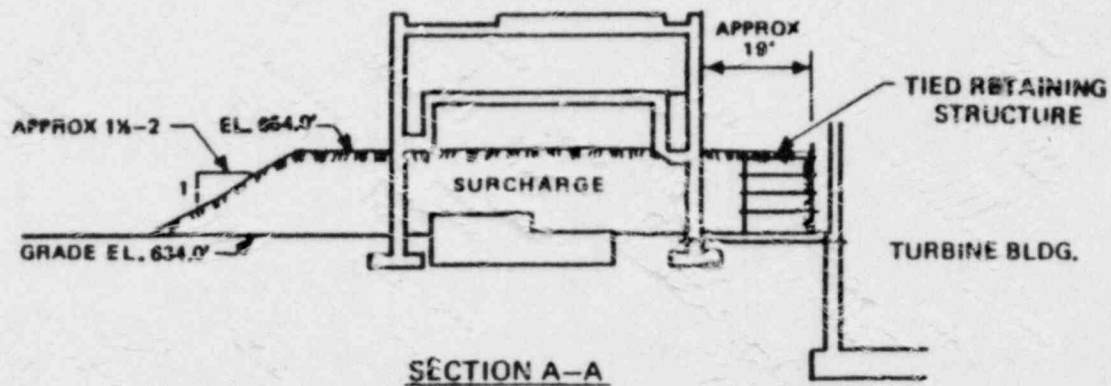
**DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY**

DUCT BANK LAYOUT

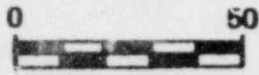
FIGURE ES-2A



PLAN

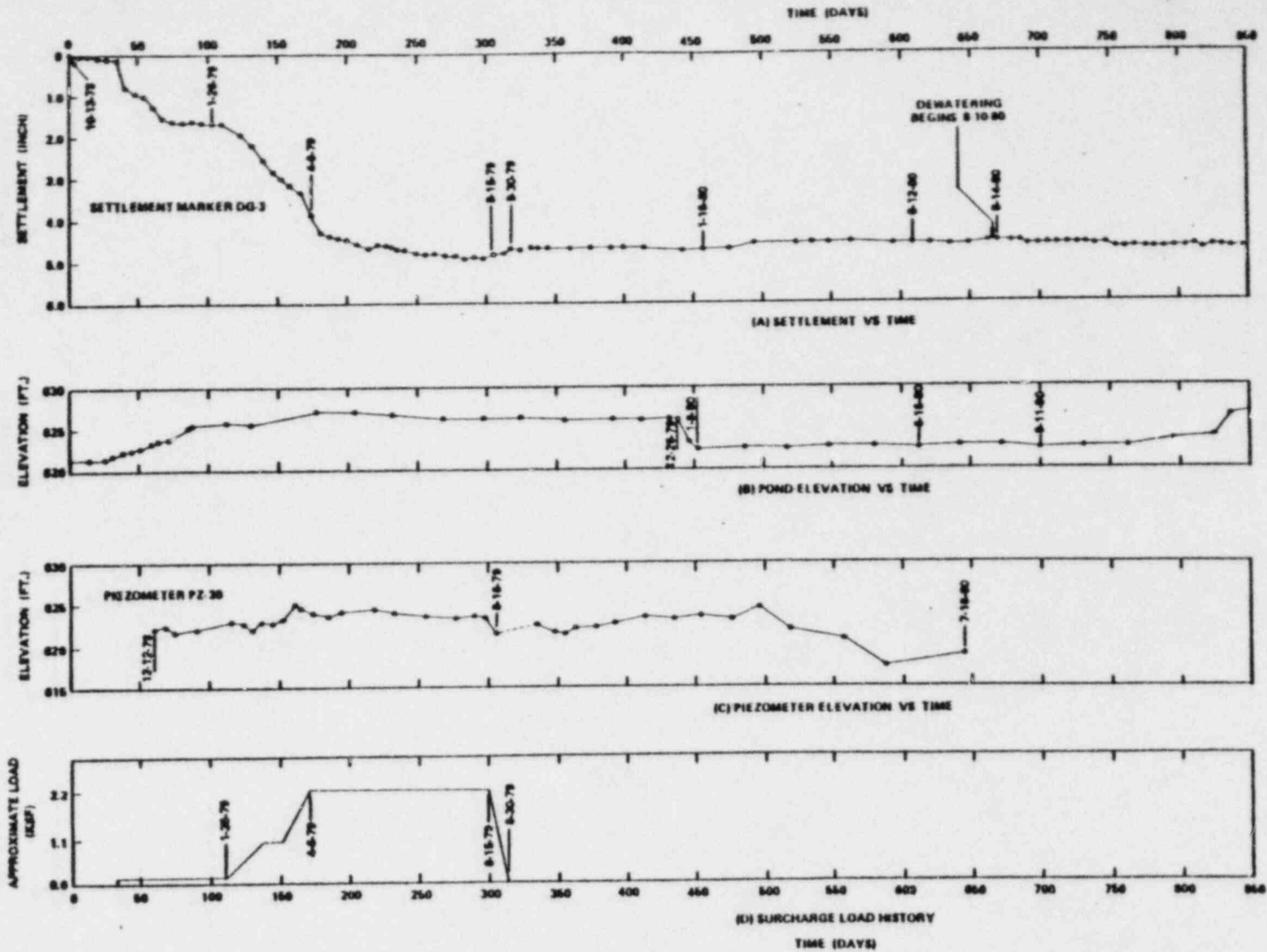


SECTION A-A



SCALE IN FEET

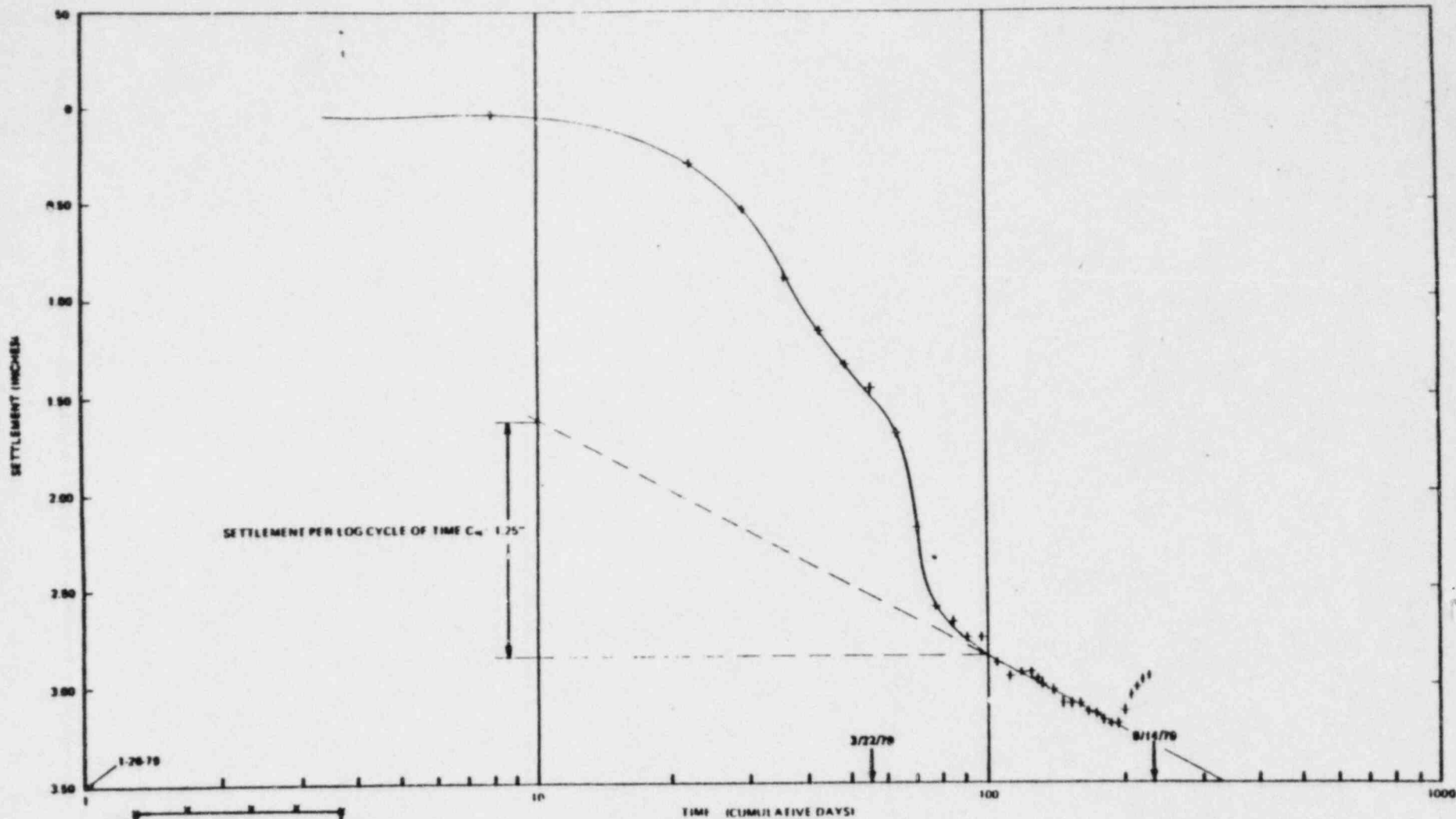
<p>DIESEL GENERATOR BUILDING EXECUTIVE SUMMARY</p>
<p>GENERAL LAYOUT OF SURCHARGE LOAD</p>
<p>FIGURE ES-3</p>



**DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY**

TYPICAL SETTLEMENT, COOLING
POND LEVEL, PIEZOMETER
LEVEL AND SURCHARGE LOAD
HISTORY

FIGURE ES-4



SETTLEMENT MARKER LOCATION PLAN
DIESEL GENERATOR BUILDING
(NOT TO SCALE)

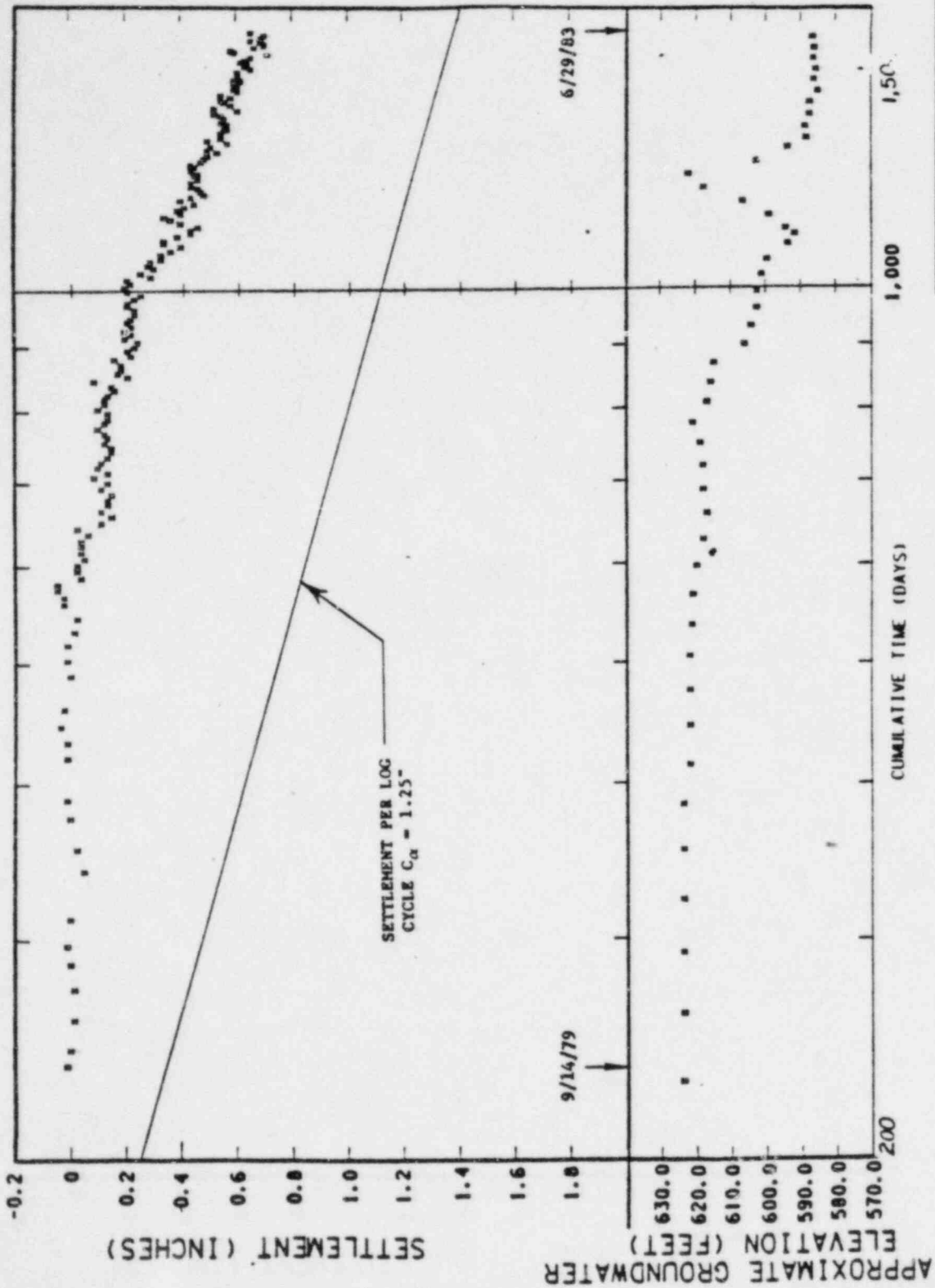
NOTE

The permanent marker could not be monitored from 3/22/79 to 9/14/79 due to surcharge. Temporary markers at elevation 664.0' were used during this period to estimate the settlement of the permanent marker. On 9/14/79 the settlement was again based directly upon the permanent marker.

DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY

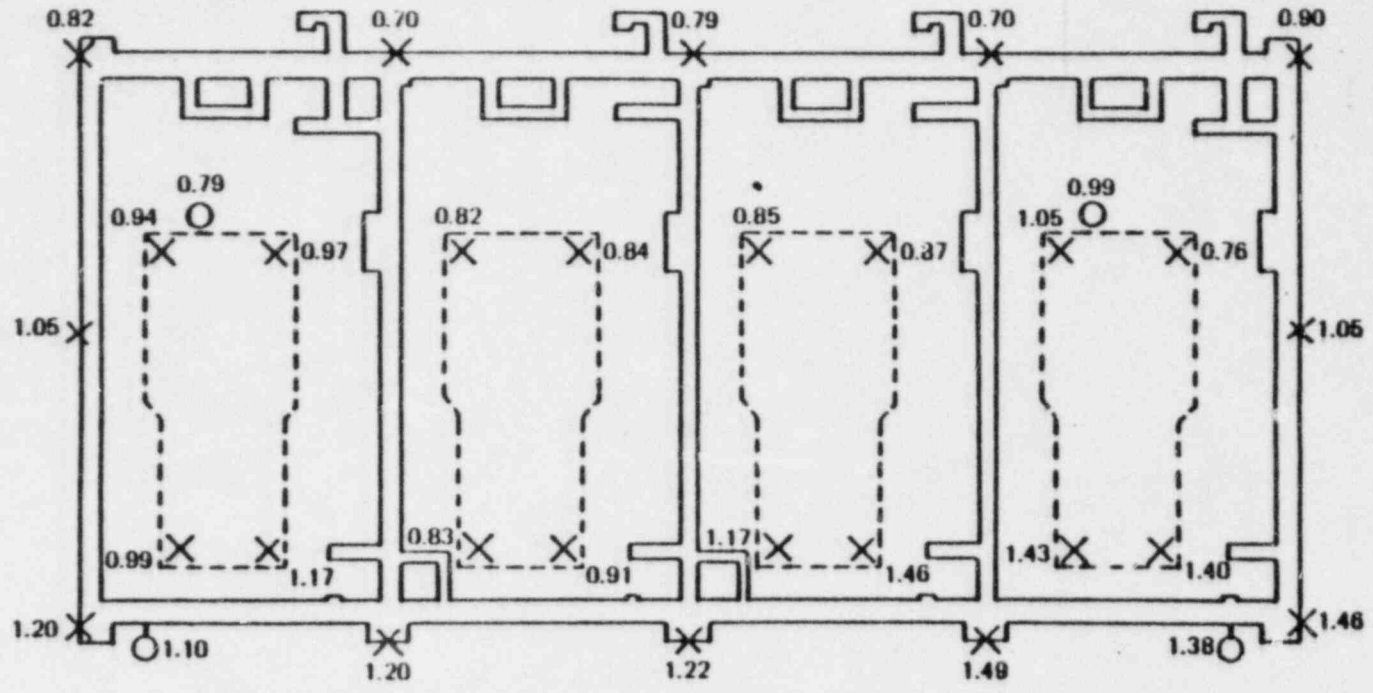
SETTLEMENT VS. LOGARITHM OF
TIME FROM 1/26/79 TO
9/14/79
MARKER DG-3

FIGURE ES-5



DIESEL GENERATOR BUILDING EXECUTIVE SUMMARY
SETTLEMENT VS. LOGARITHM OF TIME SINCE 9/14/79 MARKER DG-3
FIGURE ES-6

DIESEL GENERATOR BUILDING

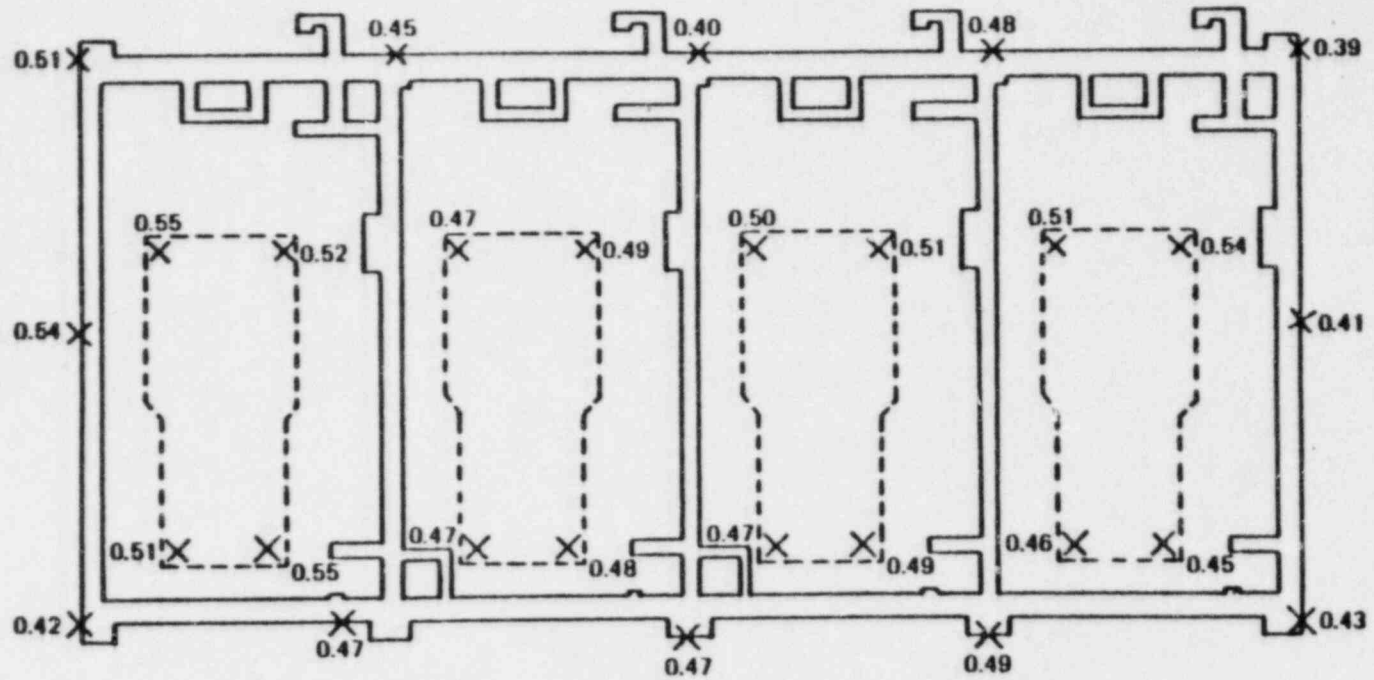


LEGEND

- — DEEP BORROS ANCHOR
- ✕ — BUILDING / PEDESTAL SETTLEMENT MARKER
- 1.20 — SETTLEMENT IN INCHES

<p>DIESEL GENERATOR BUILDING EXECUTIVE SUMMARY</p>
<p>ESTIMATED SECONDARY COMPRESSION SETTLEMENTS FROM 12/31/81 TO 12/31/2025 ASSUMING SURCHARGE REMAINS</p>
<p>FIGURE ES-7</p>

DIESEL GENERATOR BUILDING



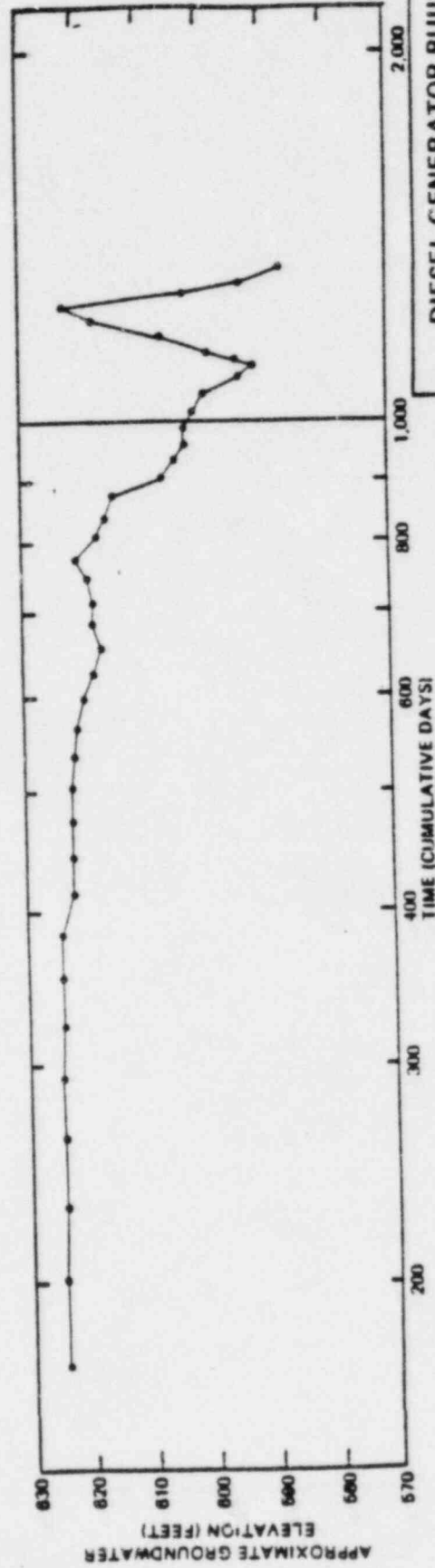
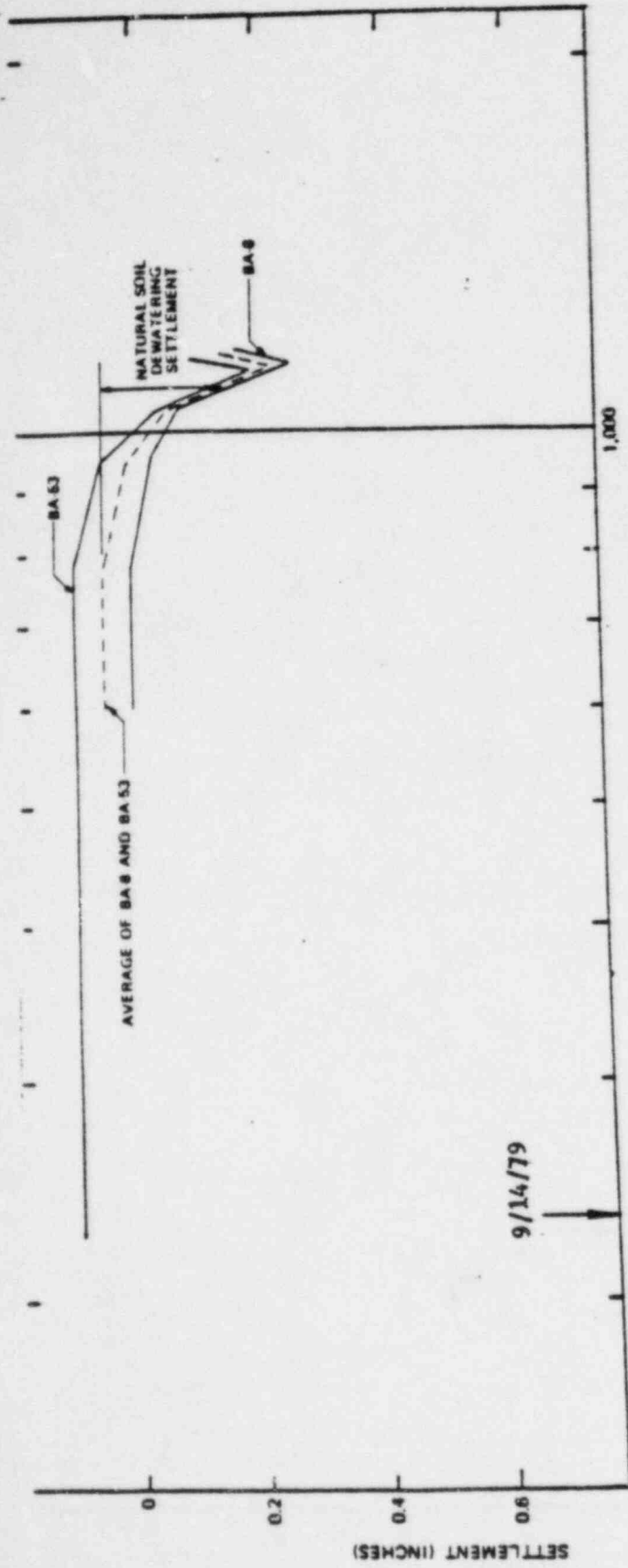
LEGEND

- X — BUILDING / PEDESTAL SETTLEMENT MARKER
- 0.42 — MEASURED SETTLEMENT BETWEEN 9/14/79 AND 12/31/81.

**DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY**

**MEASURED SETTLEMENT FROM
9/14/79 TO 12/31/81**

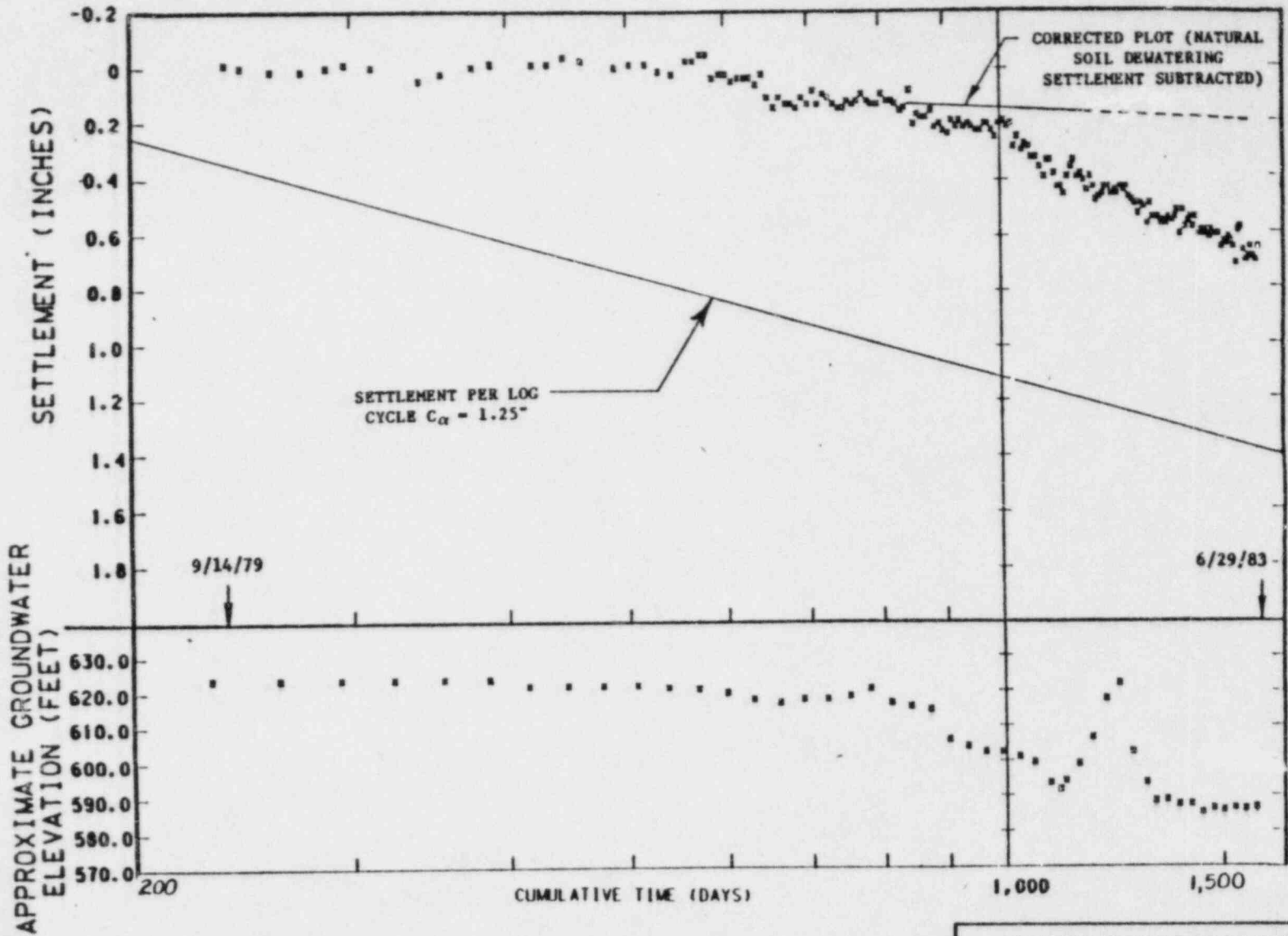
FIGURE ES-8



DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY

AVERAGE SETTLEMENT AFTER
SURCHARGE REMOVAL
BA-8 AND BA-53

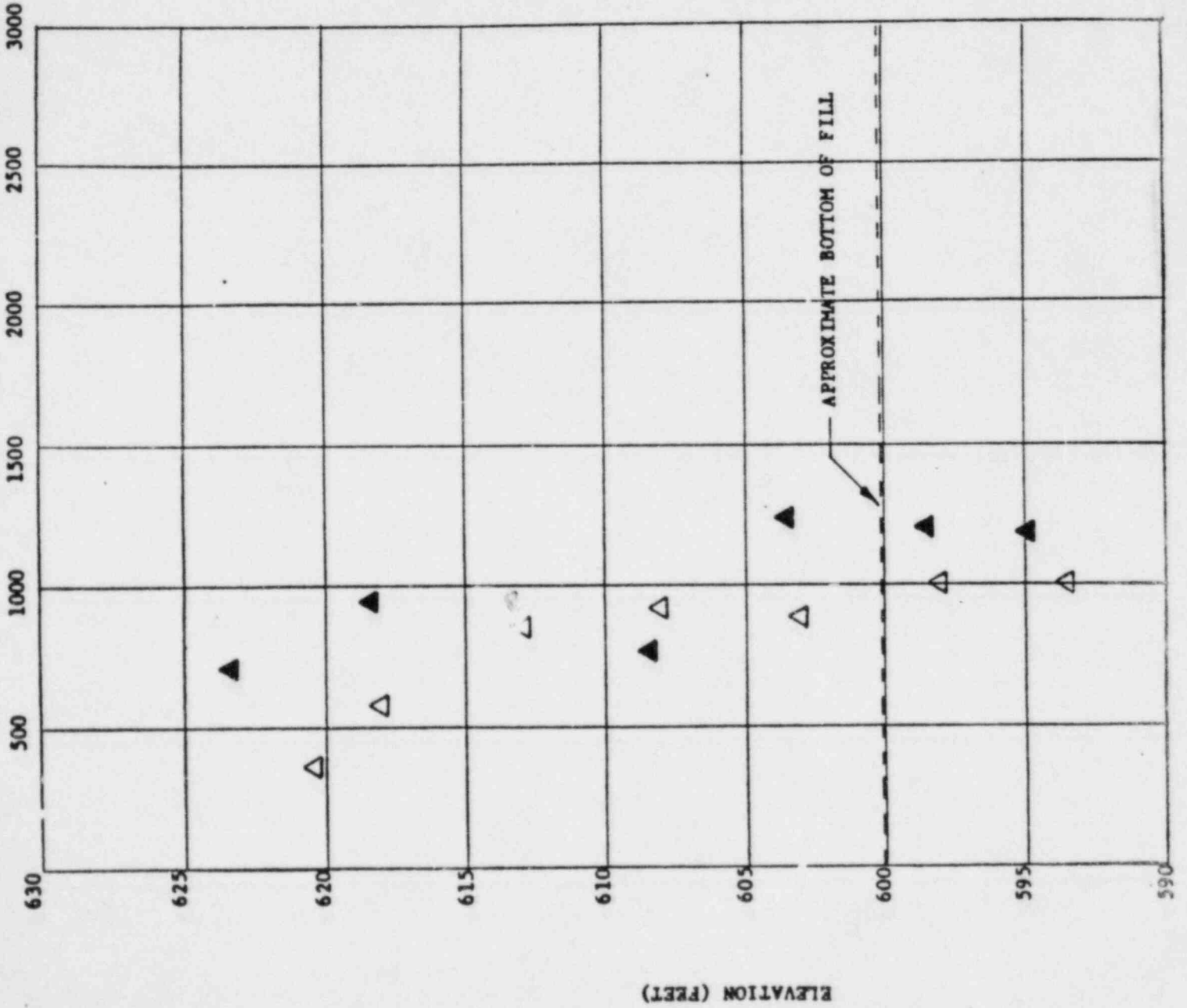
FIGURE ES-9



**DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY**

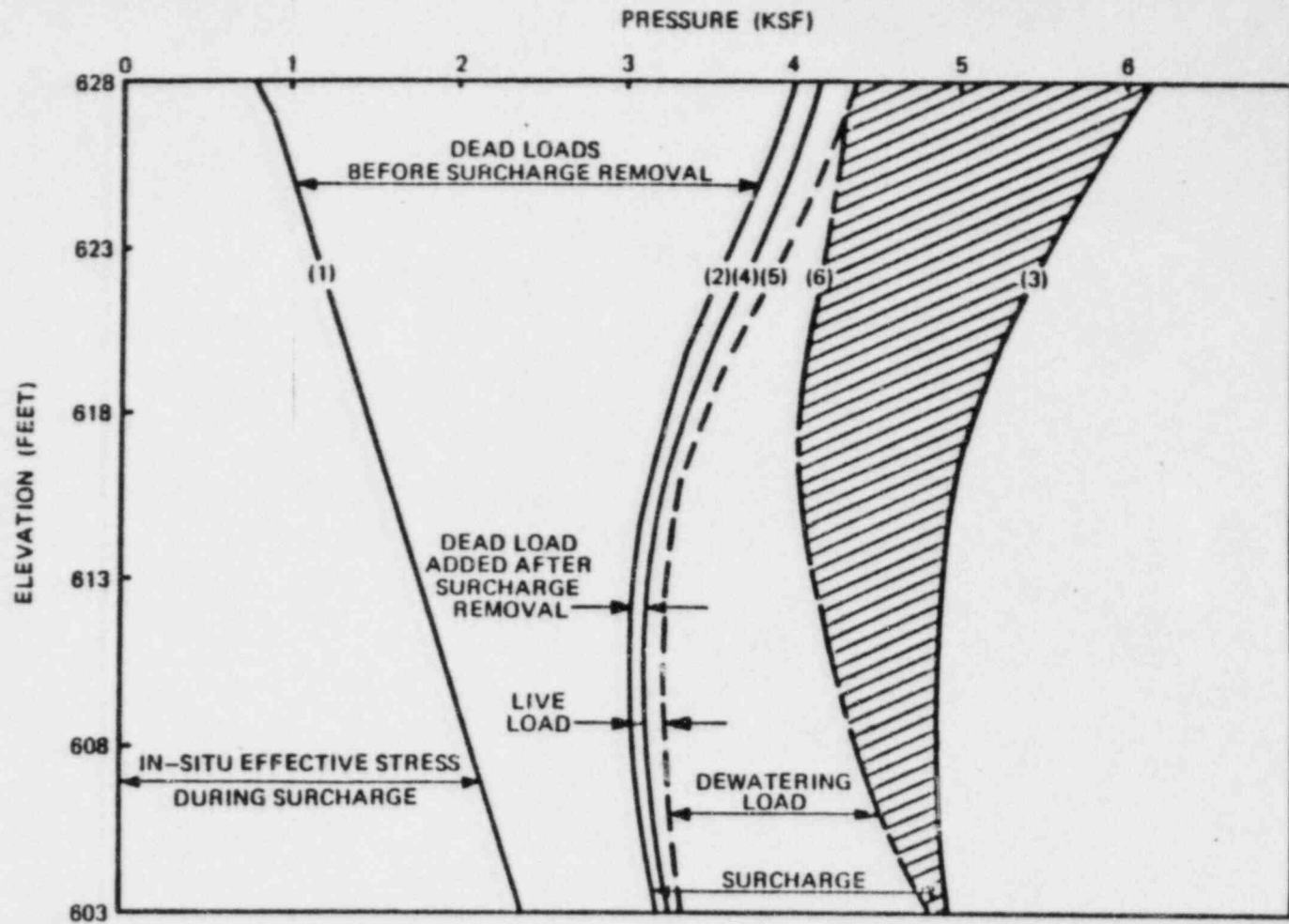
SETTLEMENT VS. LOGARITHM OF
TIME SINCE 9/14/79 SHOWING
CORRECTED SLOPE
MARKER DG-3

FIGURE ES-10



NOTE:
 Open and closed symbols represent tests at different locations.

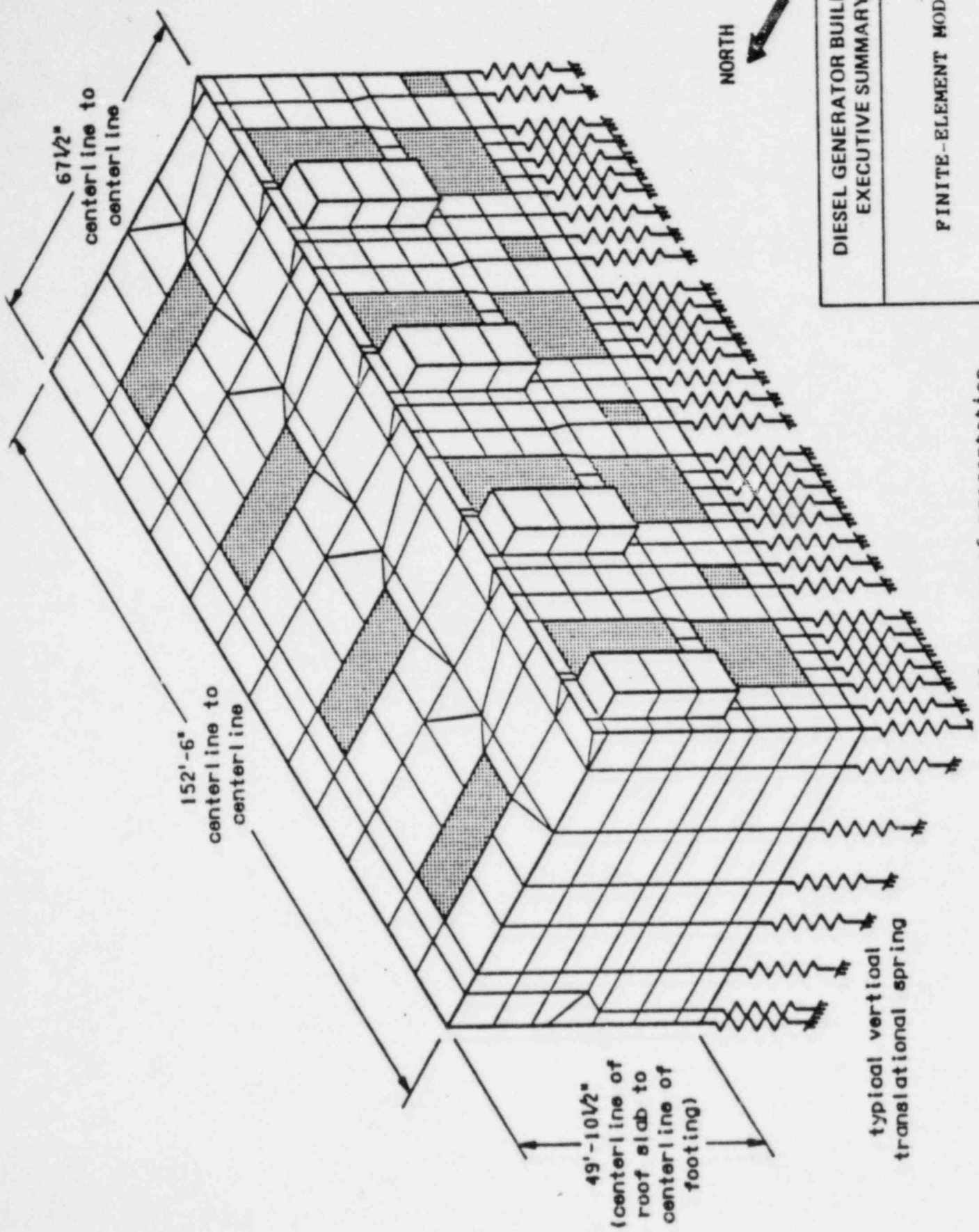
DIESEL GENERATOR BUILDING EXECUTIVE SUMMARY
SHEAR WAVE VELOCITY PROFILE
FIGURE ES-11



EXPLANATIONS

- (1) In-situ effective overburden pressure (GWT at 627).
- (2) Total effective pressure before surcharge removal due to in-situ effective overburden pressure and structural dead loads present during surcharge.
- (3) Total effective pressure at the end of surcharge due to in-situ effective overburden pressure, structural dead loads, and surcharge loads.
- (4) Total effective pressure due to in-situ effective overburden pressure and total structural dead loads (loads present during surcharge plus dead loads added after surcharge removal).
- (5) Total effective pressure due to in-situ effective overburden pressure, total structural dead loads, and expected live loads.
- (6) Total effective pressure during the life of plant operation due to in-situ effective overburden pressure, structural dead loads, dewatering loads, and expected live loads.

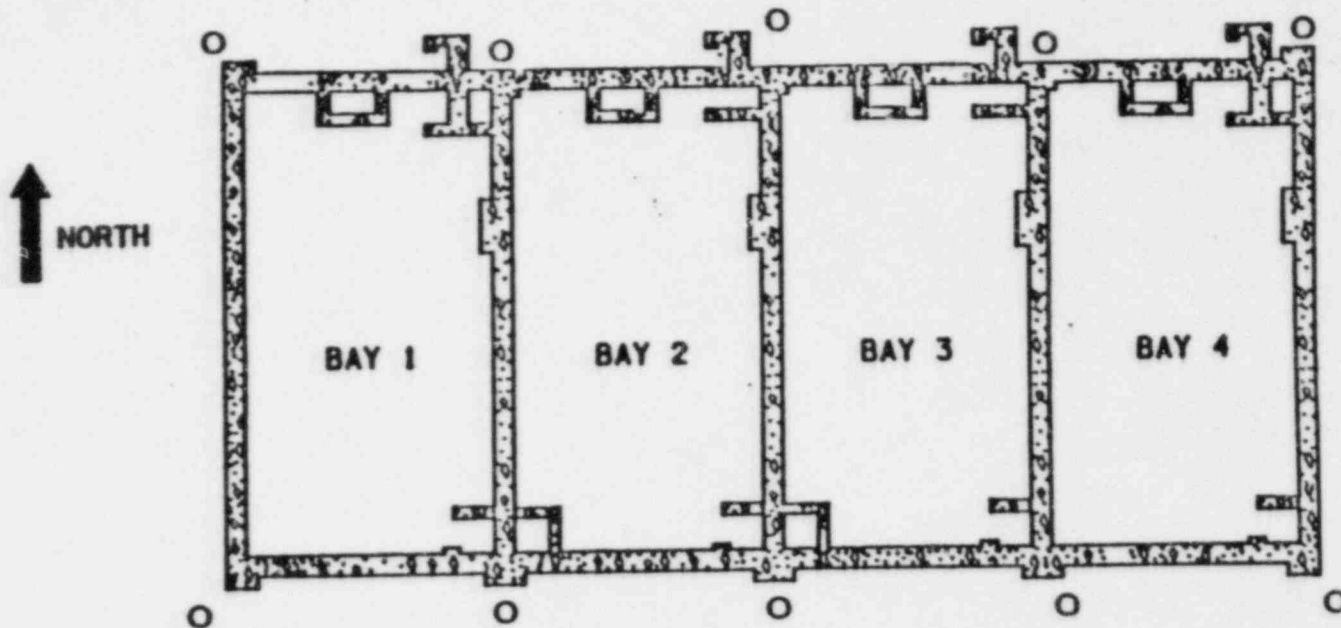
<p>DIESEL GENERATOR BUILDING EXECUTIVE SUMMARY</p>
<p>COMPARISON OF EFFECTIVE STRESS BEFORE AND AFTER SURCHARGE SOUTHWEST CORNER</p>
<p>FIGURE ES-12</p>



DIESEL GENERATOR BUILDING EXECUTIVE SUMMARY
FINITE-ELEMENT MODEL
FIGURE ES-13

(for ease of presentation, only vertical translational springs have been depicted)

LINE A	1.19	1.02	0.90	0.85	0.76
LINE B	0.77	1.09	1.54	1.98	2.41
LINE C	1.50	1.51	1.78	1.86	1.91
LINE D	1.33	1.15	1.19	1.18	1.29
TOTAL	4.79	4.77	5.41	5.87	6.37



LINE A	1.67	1.42	1.28	1.44	1.99
LINE B	1.14	1.12	1.46	1.92	2.21
LINE C	3.00	2.92	3.16	3.37	3.24
LINE D	1.62	1.67	1.69	1.98	1.89
TOTAL	7.43	7.13	7.59	8.71	9.33

LEGEND

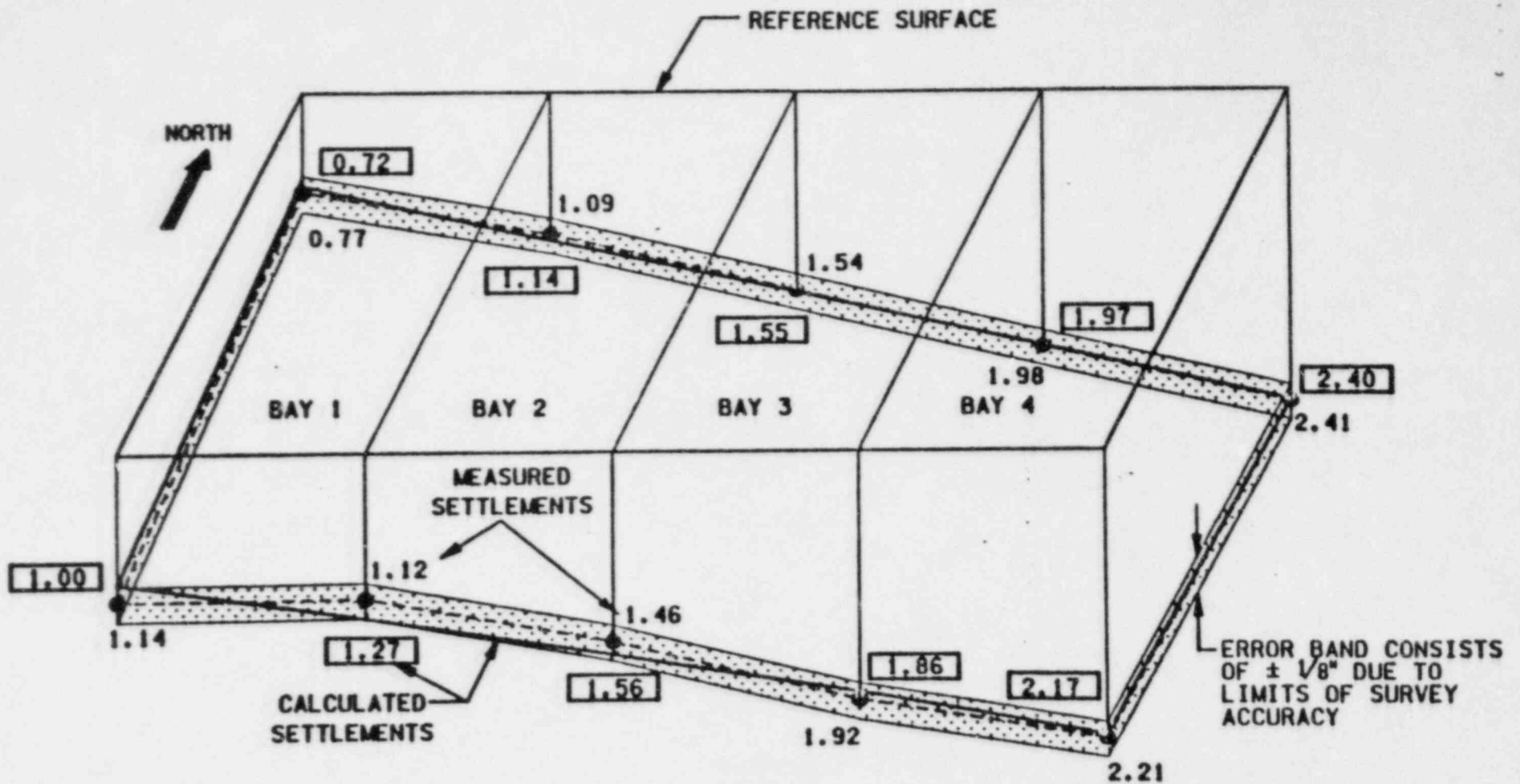
○ — DIESEL GENERATOR
BUILDING SETTLEMENT MARKER
SETTLEMENT IN INCHES
FOR

PRE-SURCHARGE PERIOD (3/78-8/78).....LINE A
PRE-SURCHARGE PERIOD (8/78-1/79).....LINE B
SURCHARGE PERIOD (1/79-8/79).....LINE C
POST SURCHARGE PERIOD (9/79-12/2025).....LINE D
ASSUMING SURCHARGE REMAINS IN PLACE

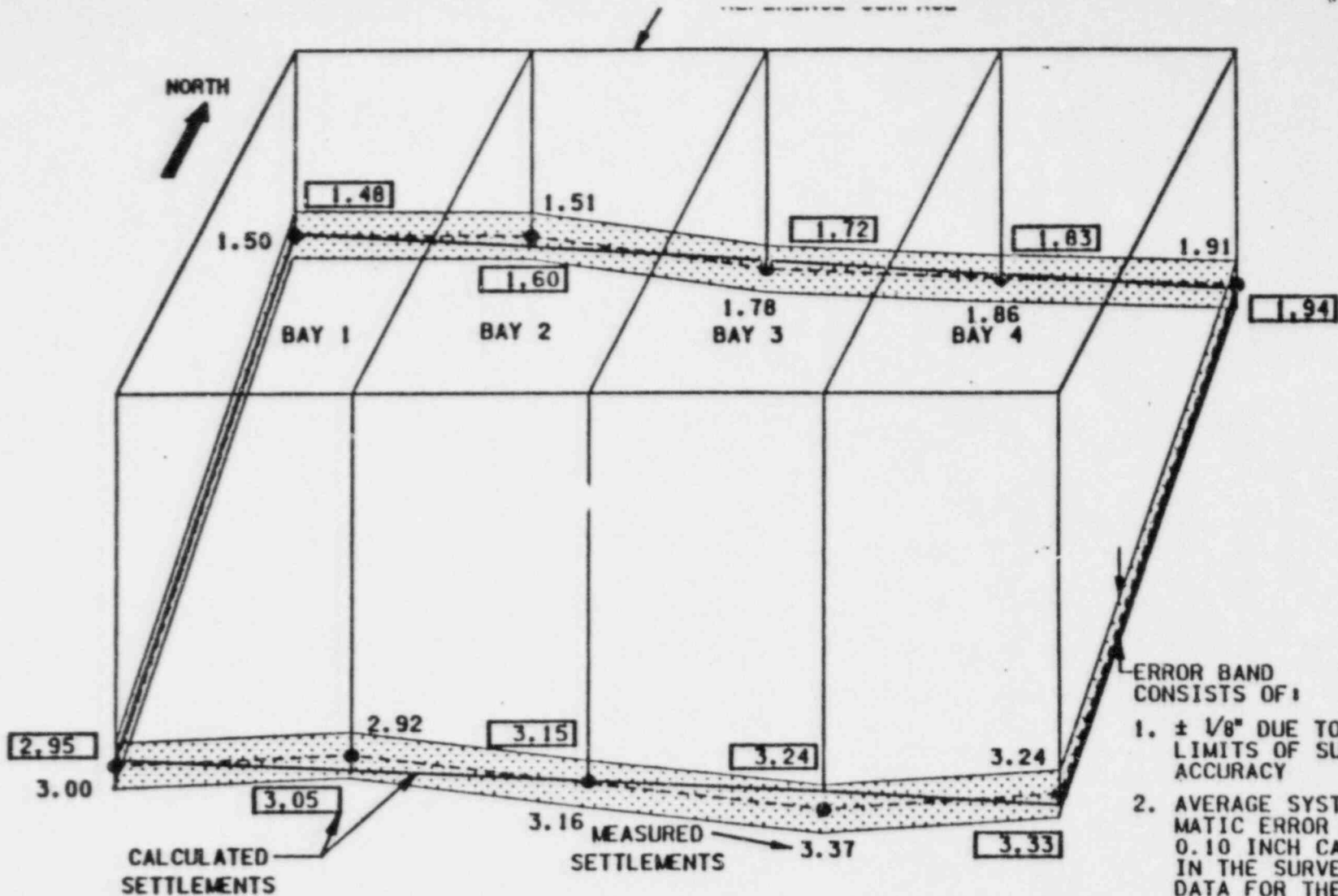
**DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY**

SUMMARY OF ACTUAL AND
ESTIMATED SETTLEMENTS

FIGURE ES-14



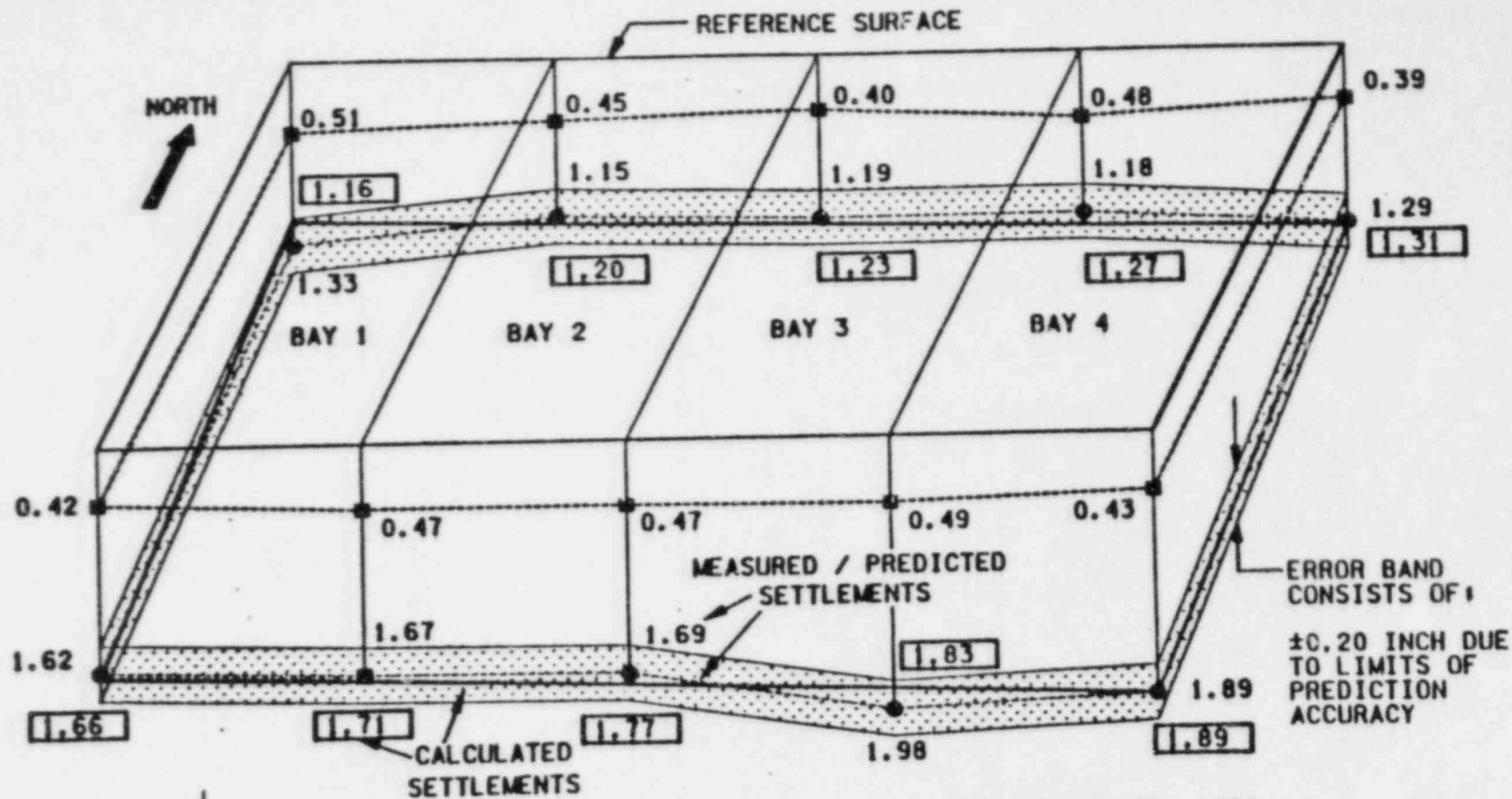
DIESEL GENERATOR BUILDING EXECUTIVE SUMMARY
COMPARISON OF SETTLEMENT VALUES PRE-SURCHARGE PERIOD AUGUST 1978 - JANUARY 1979
FIGURE ES-15



ERROR BAND
CONSISTS OF:

1. $\pm 1/8"$ DUE TO LIMITS OF SURVEY ACCURACY
2. AVERAGE SYSTEMATIC ERROR OF 0.10 INCH CARRIED IN THE SURVEY DATA FOR THE PERIOD 3-20-79 TO 9-6-79

DIESEL GENERATOR BUILDING EXECUTIVE SUMMARY
COMPARISON OF SETTLEMENT VALUES SURCHARGE PERIOD JANUARY 1979 - AUGUST 1979
FIGURE ES-16



ACTUAL MEASURED SETTLEMENT FROM SEPT. 14, 1979 TO DEC. 31, 1981. THESE INCLUDE EFFECT OF DEWATERING TO APPROXIMATELY EL. 595', AND REPRESENT MOVEMENT OF THE STRUCTURE DUE TO SETTLEMENT OF THE FILL AND NATURAL SOIL BELOW.



ACTUAL MEASURED SETTLEMENTS FROM SEPT. 14, 1979 TO DEC. 31, 1981 PLUS ESTIMATED SECONDARY COMPRESSION SETTLEMENT FROM DEC. 31, 1981 TO DEC. 31, 2025 ASSUMING SURCHARGE REMAINS IN PLACE.

DIESEL GENERATOR BUILDING
EXECUTIVE SUMMARY

COMPARISON OF SETTLEMENT
VALUES

POST-SURCHARGE PERIOD

SEPTEMBER 1979 -
DECEMBER 2025

FIGURE ES-17

40 Year
Predicted
Settlement
Case

Deflections South Wall

Imposing 40 Year predicted settlements
at 66 points around the foundation.
Settlements are based on a 4th order
polynomial curve through the 5 estimated
points on the south wall.

Foundation level

Imposing 40 year predicted settlements
at 10 points around the foundation
at Roof Level

SOUTH WALL

1.60"

1.70"

1.80"

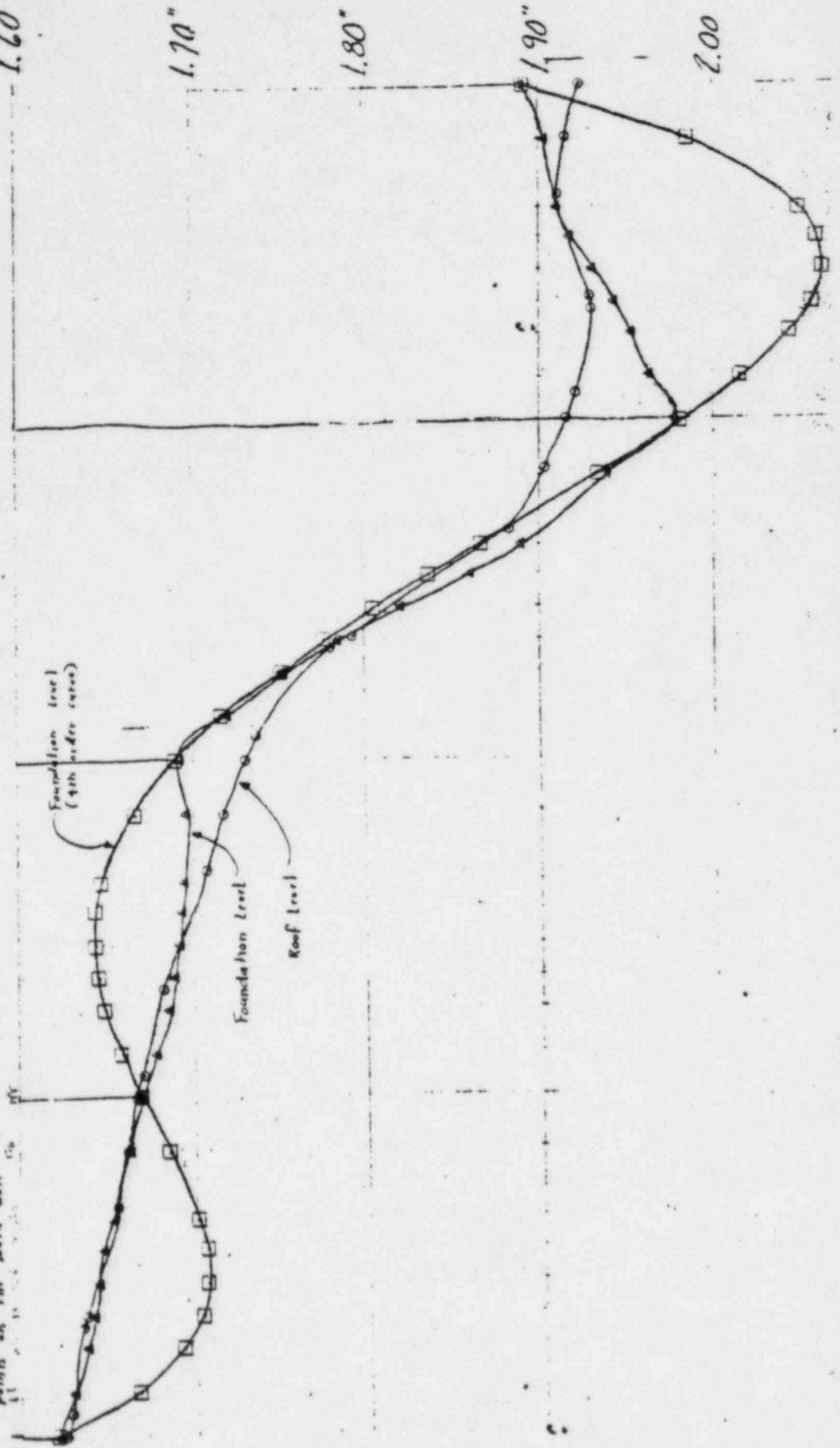
1.90"

2.00"

Foundation level
(4th order curve)

Foundation Level

Roof Level



40 Year Predicted Settlement Case

Deflections South Wall

1.60

1.70

1.80

1.90

2.00

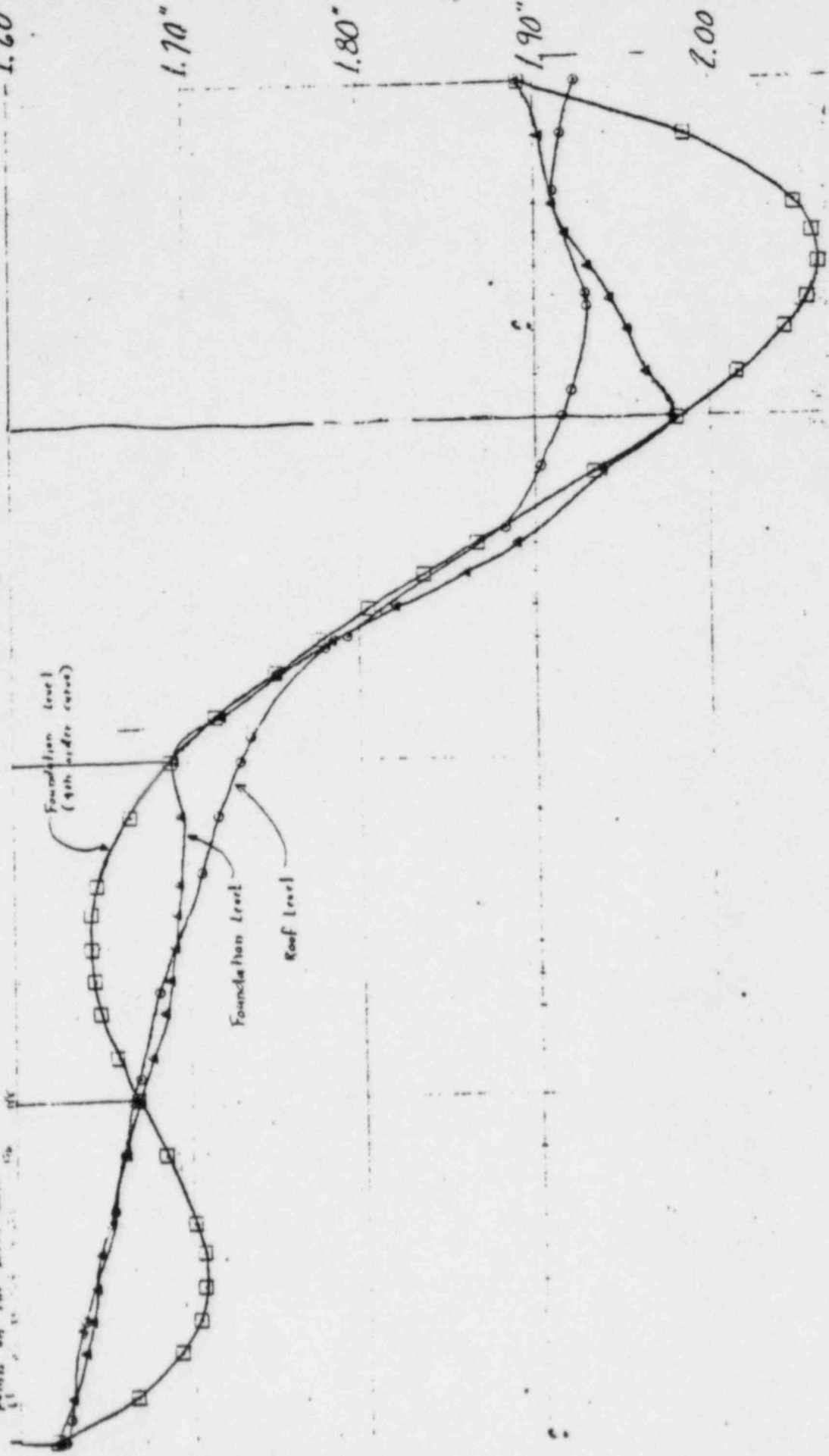
SOUTH WALL

Imposing 40 Year predicted settlements at 10 points around the Foundation

Foundation Level

Roof Level

Imposing 40 Year predicted settlements at 66 points around the foundation. Settlements are based on a 4th order polynomial curve through the 5 estimated points on the south wall



Attachment 5

ATTENDEES
SEPTEMBER 13, 1983
WOLVERINE INN, ANN ARBOR

- R. Landsman
- C. P. Tan
- R. D. Romney
- D. S. Hood
- C. J. Costantino
- C. A. Miller
- A. J. Philippacopoulos

RIII
SGEB/DE/NRR
SGEB/DE/NRR
LB#4/DL/NRR
BNL
BNL
BNL

ASLB Hearing

4/27

- TERA - Prior NRC employees not involved in Licensing ?? Universal statement
- June 1-10, next Hearing

* 2.744

Disorder Retraining / Recertifying of QC Inspectors
all documents prior to CCP!
- Soils, etc.

- CCP - documents from Case - Loss forecast

add:

- ZACK [Operating License Contention] wait possible / wait
- SAUP III (abbreviated)

Landsman - BOOZ (Spessard memo) - Harris Request #6
extra documents to request

Pawlak - Board Violation - proceed ASAP, awaiting Report
(Wilde) prior to June Hearing

ms. Wright called OI

- Instrumentation (Booz), Report issued

Board Notification

(1) Pump Service Water Structure cracks
reaching alert Level

Some us
2/4/83
I.R.

(2) Drilled into "Q" Elect. duct Bank
at service water structure shallow
Probing. (1) Excavation work Permit system Approval?
(2) If not why? (3) If, so, what impact?

(3) Problem with Pier 11-w Jacking
[Friction Problem] Load at top will not
transfer to Bottom (causes load cells)

* Respond!

WORK Permit ^{System} Issue - CPC. letter
of April 4, 83 - expired -

• Use of notes during ~~recertification~~

• Lyme Bernabel (GAP)

(1) Inspector Qualifications (Electrical ^{55 of 1,000 amp, pc} ~~Wiring~~) 45% defective
Bechtel mismanagement.

~~SCV CHL~~ (2) Inspector who failed recertification, what work
~~sets~~ must be reinspected (BOP), "work must be
~~reinspected~~ CCP resolved - Sampling may
~~miss!~~ miss! 95/95 criteria must include
100% for anyone that failed
Activities outside CCP scope must be 100% reinspe.
Need listing!

Nov-82 2 failures (was 100% reinspection done.
Monthly status Report (Roy wills verbal commitment)

(3) Recertification in the Sols areas -

(4) DGB Insp. QA / QC questioned - DPIN's
management problem not training.

QA/QC Staff Experience

4/28

- (1) QA Experience Wells / Meisenheimer
- (2) Walt Birk ? Involvement
- (3) Soils QA/QC personnel experience/performance comparisons with activities being performed.
- (4) Oct 86 Insp. - RG. 1.29, license exception FSAR ^{APP} 3.A, Items should be "Q" - analyze only - no QA/QC Inspection, NRC Response forthcoming; however FSAR has been reviewed and accepted by Licensing.
- (5) tack - welding Procedures Qualification, unacceptable license certified - NRC NO.
- (6) Hanger Statistical Analysis - Rutgers "misleading" ??
- (7) Document availability 50.70 a harassment delay tack / Threat turn-up some Cooperation, Bechtel causing delay.
- (8) C-45, utilities design vs. AS-built, Dwg. revision resolves issue?
- (9) Soils third party reviewing design documents for content / completeness ?? currently being done?

*** (10) Third Party (S&W) ~~to~~ overview by NRC
 idell/ottino "Koppler Statement" _____

Callahan
Koppler
SA

(11) FIUP Cracking by NRC, need time

4/20

(12) PCA, Concrete Technologies Report, review of Dr. Landsman's opinion - Not a "NRE" staff position"

[Revision 1 ??] ~~is~~ does not have copy!

root cause ^{determined} a, b, CPCo - US

*** (13) SW ^{Pump} Structure - Alert Level Cracking. (2) ^{Notified} 4/20 per file
NRC review

? (14) If the duct penetration was on February 14, 83 why was board notification to NRC 4/20/83?

? (15) EPA Rising in lieu of settling do to temp variance? - Letter Poulos to Kane 2/3/83 (Res Str. Eng) NRC vs Midland Section (R111) -

(16) Based on past problems in soils (underpinning) why should work not be stopped?

Mr. Kappeler

Because of (WAP) work authorization procedure - in process problems have not occurred!
Board does not expect change to occur soon!
* Not without NRE approval, do not trust CPCo; cost & schedule to many examples p-^{over}scope/quality!

(3)

(17) CCP - March 28, 83 Letter NRC to Cook
out of approval chain, into the Hold Point
(Third Party), return to Regulatory Role. 4/6/83
Cook letter to NRC "S & W proposal
out of "In-line-Review-function", CCP is reviewing
"Normal" ? activities -

(1)

4/29

(1) 1982 - Inspections - Soils

9 - 7 w/ noncompliances

2 w/ concerns
9 total

(2) SALP (2/80 - ~~6/3/81~~) SALP II pg. 7

April 29, 1982 - performance since has not improved? Two Report concerns - prior to work being initiated

define - SALP process/rating

Shaper - hand written SALP notes -

Cook^{type} (hand) written SALP Notes -

- June 26, 82 meeting - (handwritten)

Soil Borings - "Ready to go" - RL had 15 concerns. Proc'd Day so many mistakes - took 2 weeks to correct! Licensee was unaware of problem - Management teleconference w/ Spessard.

"Complete difference with SALP"
attitude "argumentative"
attitude change. "no"

- (*)
- Keppler mislead ASLB with prior testimony vs. SALP. - (Ross?)
 - SALP Board Category Rating
 - OS/10 M.C.

(2)

- Keppeler "Reasonable Assurance"

"Augmented Inspection" Effort,
additional personnel (license personnel) NOT
allowed to date - SEC'y Paper

"Mr. Keppeler" adopt, yes - Everyone
people

Third Party Vertical Slice,
AERS / Licensee - recommender

Bechtel / MORGAN intergrates

"Maguillo / Bird leave midland"
Midland Section conscience opinion
(not Bird) Keppeler recommended to
remove?, Supervisor of Keppeler - NO.
Mr. Keppeler did not discuss w/
Midland Section.

Exit meetings with QA / Constr.
8/82 - recommended "exit with
those responsible" Keppeler adopted -
did not go that high!

Commitments from to CPCo - be
in writing - ~~the~~ Midland Section
Decision.

(2.a.)

FOR Kepler

1. Kepler recommendation to meet with the President of Bochtel (during August time-frame) to tell him to "shape-up."
2. Postponement of Salp III from: June 30, 1981 to July 1, 1982 to: June 30, 1981 to December 30, 1982 and basis for.
3. Modified Salp III for Midland: reasons and basis in reference to April 13, 1983 memo from Kepler to Hurd.

ELIAD Log !!!

Kepler-

- 9/29/92 ^{stop-work warranted?} lack of sufficient information in BOP ~~conference~~ led to DGBA ~~stop~~
 (Caucus) inspection, majority opinion of midland section, landsman dissented.

- Inspects ^{Quality} / cables problem area, ⁽⁸¹⁻¹⁰⁾ additional example - Landsman:

- Basis for disagreement - CPCo promise to reinspect all should an Inspector fail exam.
- Examples for past 12 years were sufficient DGB proved more right than wrong. AERS 54 pg. document on midland plant was basis. ASLB Notification.

* *

• Opinion changes base on CPCo promise to reinspect. subsequently CPCo ~~the~~ change a promise to inspect 100% (another misunderstanding ~~sturdiness~~)

(4)

~~additional~~ changes to pass exam:

NRC - 1. Programmatic failure would cause 100 reinspection - Mr. Wells thought a 2nd and 3rd chance was OK.

NRC suggested inspection because of ^{some} recent activities were recent (within last 12 months - ?)

Also basis for NRC to test CPCO
Corrective Action; i.e., training of QALOC
Craft. Failure was basically poor training i.e.
DOB. Implementation review - AS-Built Condition
OSC "to take a hard look at Midland"
Licensee:

"everything OK in balance of plant"

- Written program OK - Implementation -
possible problem - 9/7/92 CPCO to NRC

(1)

DGB Inspection

4/30

(1) Other areas of the plant? yes

Reported? 10/12 or 10/19 week of

(2) Response to NOV ~~#~~ CPC: 3/10/83

- Staff opinion only -

* NRC has not responded officially!

- Corrective Action:

• Correct Problem

• Cause - extent (other/past work)

• Prevent Recurrence

** - RG 1.29, NRC resolve, internal RII/NRR
NRR is reviewing, unresolved.

RII has mechanisms to disagree

Final resolve?

- NOV ^{established} ~~set~~ format (Response Adequacy)

Area 2 - Root Cause

Area 3 - Other ^{possible} affected areas - CCP
beyond DGB

CCP addresses generic implications
changes to CCP. ^{control} x. Confirmatory Order
suggested by Midland Section
when? _____ JK final decision



(2)

- DOV vs. CCP item close out - generic implication.

⊗ - Must get staff approval for changes to CCP - control "ORDER"!

⊗ - Order - indicates a lack of trust in CCP's more manageable - promise not kept, lack of trust, remove any possible misunderstanding, Board clarification to CCP.

- Training program to "... Comply with all design requirements ..." Record shows lack of in DOB Insp, N

- Not following procedure - "Lack of attention to Detail" improper training & Craft / QC / Field Eng.

⊗ - Mgt of Project (Assessing Capability of licensees)
Due to "inability" or "desire" ?
Due to ability or willingness ? Combination

- NRC Rule on Competency - 10 CFR 50 App. B - Code 2 - skills - (training for all ASME v. 2.6) PSAR (Std. format & Code) STD Review Plan
obvious design deficiencies at plant - Shows inability of Eng to design plant
Building design controlled and DOB on spread full.

* NOV - Enforcement Package

- Meeting w/ wells - "sounded like J. Cook" attitude - no - passing on thru communication
- Section Meeting - "Safety Related Construction should be stopped" conscience opinion, discussed options. Established basis. Sept. 82 no ~~is~~ real evidence - Oct. 82 had been found. Recommendations to "stop" to Warnick - document evidence / to enforcement board (Snitzer / Davis / Schultz), on ~ Dec. 20 / 21,

Nov 23 (exit) findings passed on to licensee formally. Possible enforcement action, recommended escalate enforcement action - Midland Section recommends all safety Related Construction be stopped - would take time. CPCo may want to take initiative

Second meeting

CPCo (Peck) notes "... CPCo take credit ..."

* ?

J. Cook - take all action possible to prevent an order

Midland group - size of C.P. \$60,000 OK
up to 120,000 OK

stop activity / CCP
Levels II or III

1 Million - to get attention

(1)

ASLB (Keppler)

May 2, 1983

- (1) Agree with "Shoddy"; significant problems CCP should show if "shoddy".
Today - "Shoddy" - No real work going on.
- (2) Landman - Shoddy - jeopardize public health & safety - potential - hold-off on O.C. extensive ~~review~~ review w/ 3rd party overview. to assure proper constr. / Q.A.
- (3) Board Order - WAP - need to gain confidence in licensee / 3rd party - resource drain, not there yet!
- (4) Trust ^{cost} - schedule / ahead of ~~QA~~ QA -
↳ Shut down Big Rock / Palisades - not confidence staff review - Don't know why! CCP, etc. Being reviewed to be implemented
- (5) Attitude - mgmt. (CPCO / Bechtel), JR agues. site: doing the job right the first time, in lieu of trying to inspect ^{not} quality in at the end. Mgt. of both have ^{not} been ~~effective~~ effective. Wait and see!
- (6) Order, LOCK into CCP, after program approval by NRC - In final form - IT, NRC, EDA, Bill to join ~~it~~ on format.

(2)

- (7) NRC conditions / changes (make a deal) to achieve reasonable assurance - Threat to withdraw. "reasonable assurance". Absolutely Not! several meetings discuss concerns. The thought of a clandestine meeting is absurd!
- (8) Shut-Down - consideration was given. Immediate Order - NO - Show - Cause was considered - However a Confirmatory Order probably to be used.
- (9) No WAP / No Third Party ^{over} review, would you assume CPCs could properly complete Const. need additional assurances.
- (10) Nonconforming Conditions at the site: how to deal; identify and correct all by fix or evaluation.
- (11) Opinion as to CPCs ability to implement QA Program. Prior to DEB-Insp. - was sound and should work properly - some E1 and E2 changed opinion. Oct - and present no confidence. RII not for B and Present to future - cannot rely on CPCs QA Program by itself. Third Party is necessary until confidence is gained. NRC Third Party Approval Third Party fails to work take further action

(3)

Selby editorial - places blame on NRC - K

Attitude

Delays SSER Time - approval, item
by item approval result of CPCO
failure to implement QA Program = (Passing the
Buck)

W. Marshall

(1) R. Cook, 12 years, good inspector

R. Landsman, yes, out voted

- Duct Bank penetration 1 + 13
- cannot pin-point reason, don't know cause
- CPCO / Bechtel Contract - furnish bodies, everybody - anybody, walk-over NRC
- Responsibility - with CPCO
- State Act. General - evacuation out-mod obsolete, NOT on ASIB Issue
- Hazard to area - previously announced
- Improvements so Landsman job can be done
- Three-Party to operate plant - CPCO can't construct ^{properly} how can CPCO operate
- Landsman / Cook statements - Confidence Honest and Reliable

(4)

Ms. Bergabel (4) SAP 82 Meeting -

- Withdraw reasonable assurance
- Do Not know problem
- Not show can do the job.
- Should be less dependence
- 7/26 - List of Recommendations
 - ~~AAE~~ Audit - KMC
 - Public Meeting
 - ~~IOVP~~
 - QA Program Overview
- 7/31 - Warnke disagree - want basis to make judgment
- 8/3 - Midland Section - oppose NBR suggest
8/26 ^{to review (need it - not)} Increased ins. effort
 - Independent Verif. Study
 - QA / QC Interpretation
 - Meet with Const. Mgt
 - Hold Point creation / update / review
 - Meet with Denton

8/26 - CPCo to come up with program

① Kippor List to E.A. Dinsman?

1) 7) Not on staff list!

Brd/Mayullo - dropped out + Root Cause + mgt problem communication up.

Show

URC ability to Monitor CPCo

CPCo top - Carlisle was good, but too tightly control -

(5)

August 20 Meeting

E. A. Densam - Notes - 8/27, 9 Issues



- "Get-well Plan" draft for "Solic" & B.P. submitted on 9/7

Draft was valid

- 9/8 Shafer meeting w/ NRR - Draft Letter Exhibit 68 -

- Exhibit 65 - variance to Koppa - [4/4/92]

- Draft comments para. 2

- 7 total -

- 4 ^(SFT) concerns by staff

} conveyed to CPC [Sept 17 1992] -

- Exhibit 69/70 draft SALP (9/82) letters

- did not see (during first time)

- 9/17 letter to 10/5 ^{to Koppa and Carter} NRR submission, staff review

- Exhibit 71 - draft ^{staff concerns} response to 9/17 letter
NRR would not (allow issuance) occur.

- Exhibit 72 - Heman's Notes

DGB Inspection concurrent during this time.

- Oct 25 meeting - CPC: adequacy - Vert Slice not large enough. S & W - NO a B.S. party Inps

- Feedback - on 10/25 meeting.

(6)

- ~ - Oct 25: position on BOP QA-UNSAT per staff
 - Vertical slice in system UNSAT
 - Soils: - 3rd Party agreement Oct-But n.7 approved

- Oct 29 - "Reasonable Assurance" - withdrawn by JK

3E - Soil word Position
BOP - ?? Left in limbo

~ 1 - Exhibit 13

~ 1 - Oct 2-25 JK "Draft" testimony - pg. 7 para 3.1
DEB INSP ^{10/12} may revise decision -

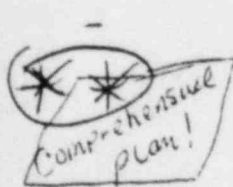
← why?

- 9/17 staff's Vertical slice (was discussed, but not)

no CAP - soils ~~were~~
yes soils

• INSP criteria - consistent snapshot
Horizontal slice in CAP write the same!

- • CPCo 1/10 - Proposed CAP based on staff recommendation on verification (FST Cost. to WRA/IE RUII and CPCo late 12/82)



- Letter to CPCo Consolidate all proposal into one document! QA Implementation Plan and Independent Reviews

⊙ Exh. 13-74 - Ron Hermann memo 12/21/82

5. Letter from staff.
6. IDVP - by TERA (not approved)
7. Div. of Eng. close system

(7)

- 2 RIT Letter (Pic - ^{etw} rd) under turbine Bldg. (minor work)
12/9/82

- DEB. IPII. used in soils

- Exhibit 75
12/9/82 Hold memo key condition
soils Issues (A) to be resolved prior to
work being initiated!

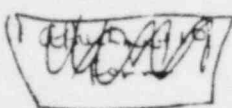
- Tech Review

- mpp-1

- mpp-2

- Implementation of etw } Soils
(etw input - not approved
still used!

- DEB. QA Breachdown, violated
Exhibit 76 QAR (IPIN 10/21/82) multiple use in soils area

F-189


- Landsman - Allegation of Bole's order
and Bole memo

CAL 8/82

CAL 9/82

5/82 - CPCo stop-work

- all safety Related - work be stopped, Staff
position (middle section). CPCo to Act

- Warnick letter to Kepler - 9/29/82 reprints
prio - to releasing work

- Other soil problems reason to stop work

(8)

- lack attention to detail
- Pier Load Test - problem why
- IR 83-03, April 7, 83, Soils Problems
- Soil work can go forward - based on controls step-by-step release basis
- Landman does not believe Soils problems are sufficient to stop work - can't look at all detail - inspector failure / recertification
- Need more personnel. 8/18/82 RW to JK
 - Augmented Insp. Effort; 3rd would/could replace.

⊗⊗

- As-Built Insp. Third Party Insp. NO!
item 1-10 answer NO!

- Licenses furnish Insp. for NRC (FMA) rejected by Commission

- DOB Insp. Enforcement Action - Severity level and C.A. - 1 million mention:

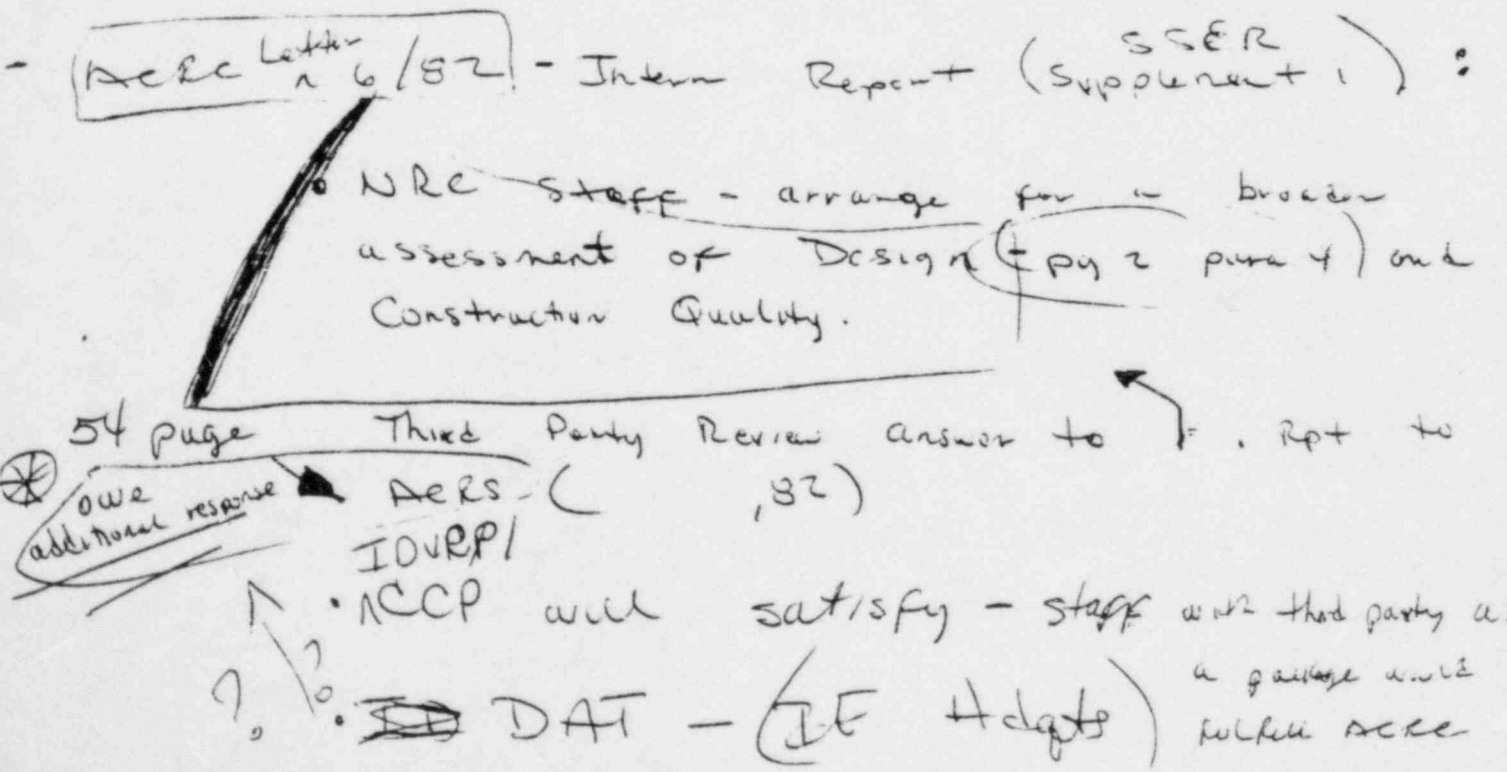
Exhibit 77 - Klinger - Comments, 2nd LOOK - @ Violator
@ day - 1/18/83 -
IPIN - concerns:

- If all not identified - follow-up inspection would could lead to partial reinspection: ^{14pm} ~~14pm~~ on IR only.
- Tracking of cause would be impossible

(9)

Result

- Some reinspected, some did not
- Tracking was impossible.
- Level II vs Level III
 Not willful / Limited use
- IPIN: used in soils area; concerned
- all work covered by IPIN be reinspected!
 Soils??
- DGB Draft Reports, final review - W.S. / R.W.
 - Change made - QA program break-down from significant break-down - considered significant - yes.



(10)

- Adenson's note on AERL - B.S.
- Staff as presently designed will meet both Normal / special Insp. activities. Adequate NRC personnel
Zack - mgt. by Eng Section 1/82 -

GAP Affidavits (6) to RLLI 3/83

93-01 closed 10 issues

- RLLI - can staff adequately handle work load? Investigating activities will affect Normal Insp. activities - Basically need additional people - Congressional Constraints on Budgets - May take more time of staff / a little longer but job will get done.

- Post NRC performance did not identify True

1/23/82
Cook memo

- Reactive Mode at Midland - Rigorous / Normal routine would have turned up - include in staff

(11)

- Did Not Receive Discovery in a timely manner.
- R. Cook's Notes - Knowledge -
- Severity Level Reduction - Not widespread - Not intentional
IPIN's
other, NRE Insp. Report (subsequent to:) discontinued
but were not, therefore - yes.

Handman - & Staff H.P. injected because of
Lack of Confidence (Lack trust).

- 100% reinspected & failed Inspections -
- "Stop all Safety Related work" ?
- Bechtel not adequately control by CPCo yes
- CCP managed by CPCo - Identify problem -> Problem ID ahead of Construct / Schedule -> Think Party Review. Alternatives to Trusting them - putting confidence in
Like Zimmer - Johnnie ??
- What is Root cause for failure to Implement ?
- Feb 8 Public meeting - Comprehensive Program to be put in place
CCP + 3rd + IDVCP = Quality / sound Construct.

(12)

CCP Not accepted!

- 3/28/83 - JC + JC, CCP - additional info -
- 100% reinspection. required - justify less
- Sample may be acceptable - ??
- Accessibility - Important factor
- Inaccessible - paper work review - [Must ^{be} Creditable Paper] - numerous past problems
- Quality Problems with documentations - major problem (serious) - not known - [If exist - Yes] - misuse - FCW in lead of NCR - Safety problem
- HVAC - allegations - false Records to site

(1)

5/3/83

Bernabae

(1) 4/1/83 - S&WP III request no S&WP on Midland /
Zimmer - Tambung mobilize S&WP - on-going
work - ZACK, SOIL & B & W - QA
as it pertains to the above.

(2) Exhibit 58 - R. Cook notes on S&WP

- TO JK - W0
Staff unhappy with S&WP, Public meeting

Sinclair

Testified on (5/2) 15122 - Line 17

- (1) Cause for QA problem was cost / schedule?
Warnick memo to Kopper "Quality taking a backseat
to cost / schedule" No Basis for —
- (2) EDU on soils proposal were not adequate to
9/17/82 letter - ?
- (3) 5/2 faith in CRCs Big Rock / Palos Verdes, but
at Midland have decreased, confidence has eroded.
(Better plant) increased in
last 2 yrs
- (4) Third Party Review for Soil make on ~ 8/82
(also other work, BOP)
Party S & W, 9/17/82, nominated, Approved 2/24/83
Work began - ~ 9/82 (stew 40 day Report) 9/20/82

(2)

Staff approval of S&W for Soils
Should be:
Expanded to include BOP

- CPCo brought on S&W prior to approval at company risk pending NRC approval.

- NRC discussions w/ CPCo on S&W concerned preapproval 10/28/82 Elinor's notes
acceptance Criteria: Dingell letter

*

- Independence / • Competence - Company / Individuals
- Integrity / • Complete

- S&W key factor in Release Soils work
Broad experience, all have similar problem

- Dingell letter -

- S&W problem at: - Shoreham (S&W removed from site (QA Problems & Cost overruns))

Individuals only!
screened

- Nine-mile Point (Black & Veatch)
- North Anna
- other plants

- GAP (Oct 22, 92) letter Objected to S&W

- Staff Record's on following Criteria on S&W selection 2/24/83 letter

- Same Rigorous review as Diablo Canyon
EVEN MORE SO

- QAR on IPIN's in soil ~~at 2/82~~ 7/1/82
S&W on site 9/82, S&W concerns w/
DGB Insp. identified - S&W failure to
address on soils?

(3)

⊗ - IPIN's apply to entire site, has an ~~DEB~~ effort been made to look at IPIN's in soils work? Abuse?

While S&W was involved 9/82 vs 7/82

- S&W methodology - Staff approval - Not necessary are on going problems be detected?
CPCo / S&W / NRC Review

- Significant NRC finding that S&W missed too early to determine - IPIN's, except

- DEB - soils 3 concerns, 1 noncompliance S&W missed

• Site wide breakdown in QA why was HVAC not stopped?

Separate 100% over inspection program

⊗ Special Inspector
B&W

• Why not stop work on B&W?

Separate contractor - Topical Rpt - OK Implementation

• HVAC - 100% why will it not be

• Breakdown in QA - why not stop soils?

Procedures adequately controlled. Backwards look? No - why not? Not necessary.

• S&W II - Rating Low rating 3 - extra attention soil problems had received.

Board / NRC / Public / CPCo

(4)

- BOP & Soil Comprehensive enough for a plant under construction.

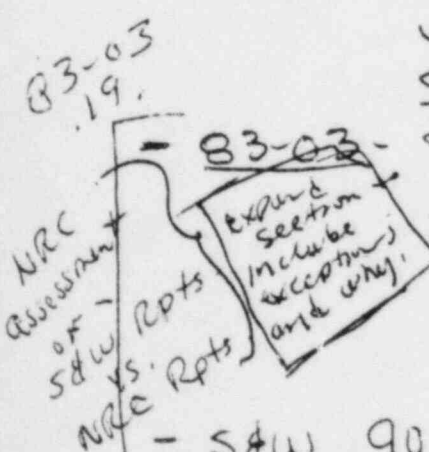
SAR - CPCo Soils work performance w/ extra NRC overview- approval (hand-holding) proper evaluation cannot take place!!!

- Mistakes in soils area show lack of control; incorrect statement. Landowner bought but authorizes work to proceed.

- How Bad would things have to be in Soils to stop. QA - regulate priority - 3rd Party overview, Technical

C.P. / Shut-Down / toughness

- 82-16 soils identified problem w/ packages & items, prior to being placed in S&W Scope.



- Dwg being utilized wrong revision (pg. 3) noncompliance found by S&W - weekly Rpt comparative by staff (pg 6) concrete free-fall. S&W detected - ?

- S&W 90 Day Rpt. - basis to remain past a time period - by mid - June

special pass

D. Miller
Ed. Jones

(5)

GAP

- April 5, 1983 letter - JGK to ~~_____~~ -
Prior to, basis ^{approval} for Competence, comparable
of S&W to NRC
- Reviewing S&W Problem

Mr. Miller -

- IPIN - use (12 yrs) began on June 1, 81
- Midland Team - Depne -
Missrs. Harrison, *Cook, Gardner, Landman, *Burgess, Crosby
(Shaper-) who inspects what?

Midland Section DGB-

Decision:

- Stop-work (by CPCs) stuff written memo ?? ^{hope} ~~no~~ ^{so}
- Warnick appraisal - yes

- Landman - Reorganization - to a specific person!

Exhibit 35 ^{Resume} - Menevhaner ? no

Technical Background - } warnick / Gullager memo
 QA " - }

- Design approval - NRC - RIT to stick nose in
Buildings - DGB - SWPS - Cost town - Poor Design

(433)

- Midland Plant Threat to Public Health & Safety - Current ^{stet} h
if nothing was done (

(6)

- Landsman - ^{Q.} Exaggerates to make a point
A. Out-spoken (more) no knowledge of
over stating (trust / shoddy).
- Place a factor on Landsman's
statement.
- 3/25 testimony - Q-11 "Reasonable assurance
if CPCo complete all commitments satisfactorily"

ASLB - Board

- Root Cause - Woredders / Spessard memo
 - Soils work - Recommendation on "Work-Load"
too complex - licensee has resources spread
to thin - ^{Different} Course of Action on resources
possible, if current proposal do not work
 - Miller's questions - stuff look beyond AE act -
10 CFR 50. yes - ^{R.G.} Codes / Specs etc. STO Review
Plan. (WAZ - Licensing) Yes -
to commitments - if not may inquire as
to use / or other means (in FSAR)
CPCo / Bechtel Const. Guidelines (Procedure / specs /
stds / manuals)
 - "Reasonable assurance" would include "all" under
the App "B" criteria.
 - MPQAD ORG. arrangement - consultation
unusual - Bechtel - personnel still supervisory
authority - lesser authority.

(7)

move control under CPCs. Bechtel should not be
role, Mr. Walls wanted to try - R.I.I.I agreed!
Only time will tell! Inspector's support - yes!
Decisions are supported by entire team

ok - Feb. 24 letter - stw contract

- Landsman - WPA system - expansion to underpinning
Does not know -
- CPCs lack of control over Bechtel -
Document Retrieval difficulties - suggestions:
President of Bechtel meeting on cooperation - takes time
Does not intend to let the public ~~persist~~ persist.

- 3/25 testimony - Q-8-

[Post system turnover work] ?

Define software only?

that effort required to place systems in
lay / storage / condition

- WAP similar for BOP - not at this time,
because: view on next of assurance (CCP, IDCAP
sol) thru Policy Review, midline section - should be
sufficient with WRE-ASUB. WRC should not be
in an approval-stage - step-by-step - Regulation
is lost - prefer to stop work - suspend C.P. !

Even in the soils area, we (WRE) need to get
out when confidence is obtained, get into a true
regulating posture.

(8)

- QA Performance - SAMP comparison - to other plants / Regions. Within Region III to other plants - general: Implementation lower of the ones in the Region.

Ross → Dewatering System - Loose Sands - Panel

- Expand examination into record - ok
- Any other recommendations into record - yes
 - Board require RTII to come back at some appropriate time or to status the current / proposed program as to "working". Could be OL leaving! approaches and concepts need to report on results (not necessarily prior to 1st decision).
- Bechtel was ~~design~~ disapproved because of conflict of Interest (Independence).
- Particular Labor problem / practice / relation / morale contributed to QA problems - Not aware of any.

(10)

- CPCo Shut-Down Safety Related work - NRC pressures/caused -

~~- Midland Sector Oct testimony - para. 1~~

- NRC Dissent within RTR / NRC spoke to Commission Level

Landman - Design ^{Competency} ~~Responsibility~~ - 3 examples: of design deficiencies were not allegations v. Inspection non-compliance agrees w/ Landman - does doubt

* - IDVCP } NRC overview - (time) to
CCP } judge - [6 months] from now.
response - CCP approval -

[NOVEMBER]

- CCP-time to detect problems: _____

- ~~QA~~ - QA program - 5 Best plants in country - major QA Problems midland was one.

- GAP / Intervenor object to CPCo managing CCP

(1)

- ~~XXXXXXXXXXXXXXXXXXXX~~
⑧ SEWER - 90 day report addresses any
like the 3 Board notification
Items - ?

ASLB

May 4, 83

(1) E. ADENSON'S notes not allowed into record as an exhibit. May accompany record, but with no weight. To subpoena her would require an exception circumstance - ASLB rules no - may file a brief.

(2) DGB (Stamatis)

Reinspect entire (site-wide) site by of DGB finding

- Site wide - NO, exclusions as stated in WRC Letter. BOP to include other than

DGB was much broader than and include QA Prog -

- Design vs. As-Built - Soil, B&W, B&W - deficiencies change opinion to include. yes. Stop and include in a CCP type program
- All Soils ^{remedial} work - not as designed 1992 to present? Back to 1981, identified QA problems - on record
- Structural Steel ^{temporary - grillage} on FIVP as-built did not meet design.
- Weight of concrete - beneath FIVP - fill concrete (lean-fill), weight was not considered ^{causing} differential settlement problem
- Excavated - find cable? well-point left in not a design problem - grounding cables.
- Wheeler testimony - hitting copper during initial excavations? Examples: duct bank, full line 72 sewer line - not shown on drawing as to actual location.

Contributed to

(2)

- Indicator's of prior examples of Design Vs. As-Built
NO - NOT on soils - utilities ^{located} have cause problems.
- Design vs. As-Built example to cause soils to stop and become part of CCP-type program. No problems but not sufficient cause.

⊗ ~~HAZ~~ QA Program implementation - preheat str. steel.
"Q" vs "Non-Q" issue, Design and QA related!

⊗ Disagreement between NRC and CPCs as to "Q"-ness:
historical in general - yes to some extent. C-45 duty,
Cables for instr. for Soils, ~~Soils in EI area storage~~

• Exhibit 7A - White Paper -

Define: "Q" - Safety Related

"Non-Q" - Non-Safety Related

- FSAR Commitments - exception to RG 1.29, seismic
I - II - II/I? awaiting NRC decision. ~~III~~ (warmup.
position - Problem!

NRC)

- 83-03 pg. 4 - "Q" - "Non-Q" procedural usage
"Q" items were identified, procedures were however "Non-Q"

- DGB - soils issue - [Dike armour - stone]
 - Dike integrity impaired (designed undersize)
 - Impact ultimate Heat Sink - intake structure
- violation of Bush Order - would have occurred -

Beneath address

(3)

① • DGB Insp Rpt. ~~from 25~~ from 25 stone Noncompliance.
Res: item 22 concerns (for clarification) on the record for resolution

• DGB Response - Revise spec / return Insp. with this prevent recurrence, [generic fix - past / present / future]

• IPINS. Not following any procedure cor
~~results~~ in same results by
Honest People!



• IPIN's Affect on Turned over systems ?

(1)

ASLB - Panel

May 6, 1983

Miller:

- (1) Wells. attitude change, pressure ⁽¹⁾ Attachment to form trends for modified to delete statement w/ Bechtel QC / Construction agreement not use IPIN's ⁽²⁾ Training - rush to complete ⁽³⁾ Requalification of inspectors - second chance

(2) IPIN's -

⊖ discontinued (late) JAN - 83 by CPCo

⊖ Peck - notes 11/23/83 "big issue"

⊖ Meisenbomer - limited use in soils - (time 12/1/82) ?



"Return Option" - eliminate use of Bechtel memo 11/19/82 (Smith, project QC Eng) to Bechtel QC leads.

Return - option used beyond ?

⊖ Ron/Ross - 1/23/83 - 13 interviews

slowest option may have still existed, based on current practice.

- 12/2/82 - memo (Curland to Smith) stop-use of IPIN's

- 1/26/83 - (Wells - Rutgers), Discontinuance of IPIN's

- 1/25/83 - (Wells - Freerick), use are - not IPIN's

- Soils, use after Dec. do. Not know

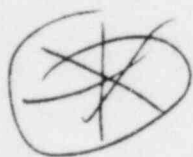
(3)

(2)

• Work Excavation Permit System -

- Require use, necessary ?
- Bound Order ?
- CPCo - (April 4, 93) do not want to apply to underpinning activities in response
- Boss do not intend to respond to letter tell "Board"
- Numerous, meeting, conversations told CPCo not happy with position prior to and after April 4 letter.
- Mr. Miller states CPCo agrees that the system is to be applied, pending NRC procedure review - OPEN, Item 53-03 - Item - 4.

Option 1
But must
fix!



• Use of Bechtel QC Supervisor's -

H.P. • unqualified personnel
• CPCo over inspectors

• allow Return of Power
• Failure to monitor QC
• Insp placement
• English speaking Areas

cook - Do Not use Bechtel QC people at all!

- Evaluate Later!

• Cantilevered - Definition ?

- Electrical penetrator Area

IN PSAR

- PSAR

py-2-27 Amherst 2 May 28, 1969

Supporting soils; ... part on clay on part on controlled compacted fill ...

- Cantilevered design poor practice even if the soil were properly controlled:

collegueses agree yes - all!

- NRC consultants, poor design
- SO. 55 (e) report on poor design

Laugh

- Landsman 80-
- Last Sat., prior to
- NRC - approval of design PSAR

- Public Health & Safety in jeopardy
- from a soils stand point typos

- written opinion - no
 = SER - says - OK

- Other panel members have such ^{opinion -} _{not} knowledge

(1)

ASLB Hearing (Miller cross)

6/1

- Palo Verde design - partial compacted fill / partial natural fill. - different materials.
- Palo Verde - Cantilevered Design - not a cantilevered structure.
- Combination fill - a unique Bechtel Design poor design practice
- ? • Braidwood Aux. Bldg - Cantilevered. fuel handling Bldg / Aux Bldg - one Bldg?
- South Texas - cantilevered? Vagely - yes - unusually expedited settlement problems, still open issues. BBR removed from the project - settlement problem cause.
- DSB - on "compacted fill"
- DSB - spread footing - poor design - 50.54 ft. ? change from mat to ...
- Gallager/Marysville - I-1 question 1 & 23 -
NRC staff aware of problem? yes
? - A² audit of structures - NRC
Surcharge - cause to not raise design issue
- Proper DSB Compaction, spread footing poor design - persons opinion - yes

(2)

Wood
Joins Panel

DGB

• Staff review after foundation change - PSAR does not identify NRR aware of change at time of settlement problem

• July 26-31, 82 - structural audit - DGB, spread-footing raised? not specifically - Geo-tech / Structural Building design not coordinated -

- Geo-Technical, properly compacted fill material could have lead to a proper structure

- Structural, review should have picked up differences.

• SER - accepts such a design - Landmen - no concern about matter of record - 7 1/2" settlement 1 corner - Bldg cracks.

(Wood) Not the best design OSprint footings etc

Wood
• SER excop - Supplement 2 - NRC acceptance of ⁻³⁶ present and future settlement as result of the surcharge as being acceptable for loads

**
Ross
• Cracks in Buildings not acceptable to him. Others have previously notified the Board - Seismic Design to be resubmitted by the applicant.

• other design from DGB spread-footing design - Monticello Ross - Bechtel design, 1969, NRC (AEC) in those days, research points to Reactor Safety - a geotechnical Branch did not exist back then.

1969 - less rigorous requirements

(3)

Ross
Shoddy work.

W.S. • MPQAD Staff - Positions in question:

Supervision - Background ~~is~~ & exp. ANSI N45.2.6 (RG 1.59)
/N45.2.23 (RG 1.146)

? R. Wells - R. Cook be replaced by Curland!

J. Meserhimer - R. Cook - QA Background lacking

B. Friedrich - OK R. Cook - stigma, only time will tell

Others:

H. Leonard - OK

D. Horn - OK

R. DeWitt - OK

R. Oliver - (QA Eng) do not know?

• MPQAD - NO technical ^{expertise!} experience? - Soils mechanics

• Bird called ^{Ross} (7/82) plans to appoint Meserhimer as
Soil Supt. - could not get resume for 1 month following.
Reviewed resume, technically qualified? (7/82 Meserhimer
memo to Wheeler, previously received prior copy!) yes - no problem.
Geo-Tech ^{MS} degree, might question technical competence.

Soils Engineer / QA Background combined rare yet - not impossible!

QC experience at Wolf Creek beneficial

? - QC not important to QA - poor answer

• Wells experience - attachment 10 - Training

(4)

- merid, 93
- Keppeler testimony [^]
 - IDCP (3rd party)
 - CCP (3rd party)
 - NRC oversight } = Reasonable Assurance
- staff agree?

ROSS - yes, but not for soils area performance has not improved
see pg. 4! over 1.5 years (at time statement was written I agree), 15-
overall.

- meeting to discuss audit tonight!
- to discuss stop-work.

~~J&K Oct-93, but with soils~~

Dr. Cowan:

- S&W 90 day Rpt. - MPOAD - QC appears to continue to function as a separate group. web. et began training in scope for soils only!
- Beckel workmanship meeting similar to safety meeting at Midland?
 - QIP
 -

Craft Training - do it right the first time!

Judge Harbour -

- Number of Inspection Hours vs. direct noncompliances; not independent!
- Design Deficiency (Cantilevered on Compacted fill) not adequate
- Differential settlement cause, uncompacted material / Lean concrete mix - either or cause

(5)

- QA/QC ENG - Ed. / Exp Key
Shortage - CPCo Program - adequate

Engineer:

- Soils - Design foundation to with stand load
- Geologist - Rock - oil
- Geo-Tech. - Soils Eng.

Judge Bachhofer

* * * Work Permit system ^{pro} taken place? 5/27 proc. revised, currently in use - NRC to review both.

"Loose Sands Issue" ^(QA) better job on preparation of material / certain of facts. Mr. Ruzick's ^{commitment} of individuals were not the best sources. Verbal vs. written commitments continually elude to "Another Misunderstanding"

- Memo - Nov. 1982 & Feb 24, 83 regard personal communication with NRC unacceptable - no problem is DSB DISEP.
- Individuals on site problem - Bechtel ^{was} the problem, presently - OK
- Ross stated not qualified - Messinger, Oliver, Mooney, Schaub
- Rutgers testimony - sampling pipe supports / cables - evaluation results extrapolated to the rest of the plant each case / results based on actual system, application, event etc. NRC would not make a decision on this report

(6)

Judge B.

OCT 29 83
K. Henderson statement

- Soils work "No improvement in 18 months", "not bad enough to stop work" How Bad would it have to be?
Ross "Getting Close!"
Cook "license fails to act, indeterminate status, level of control," WS - case by case basis, Midland Section /
Mgt. Support - evidenced by stopped-work.

**• Reevaluate within 6 months soils / CCP / etc.

6/2/83

- Parol recommendations:

(1)

(1)

6/21/83

unlabeled • Panel Recommendations:

- Ross, Board Consider staff's divided opinion on
DGB Cracks as being Structurally Sound
Board Look Hard!

- Ron Cook, Warnick memo -

• Outside resources

• Residents Stay

• Shaper be part of group

• Team to make periodically presentation to the Board.

• Good DGB future loads, future monitoring of Bldg settlement
differential / loads.

** Failed Inspectors - ~ 20-30 in CCP.

• 82-26 Ross - Training

• SACP II - too much time trying to rationalize difficulties
/ year

• Ross - additional design deficiency - personal opinion - Borales Waste
Storage Tank fdr. 50.55@). Valve pit - most critically
connected to the Ring Beam (increasing load bearing surface
on one side - increasing bearing surface - uneven settlement
and cracking / settlement problems.

(2)

- IPIN Memo's - elimination of return option
1/19-21 not properly communicated to QC Inspectors

• Mr. Marshall -

- 2 Piers in place 3rd pier Bottom falls out -
6 actually in place; test pier ^{11W} went down further
was suppose to. Test did not properly respond,
results inconclusive: (NRC two options);
 - new Load test
 - Reanalyze the Building/foundation -
increase the bearing surfaces
(twice the anticipated differential settlement)

Ms. Bernabei

- MPQAD Goals (integrated) - Bruce's notes, Commitment!
License internal document, no real organization boundaries laid
down by the NRC. Bechtel Supervisory Involvement
monitored by the NRC

- REG. Guide 1.58 Rev 1 (Generic letter 81-01) ~ 5/81
~ 10/82 - CPCo Letter

? New employee to meet, old employees?

code - Schedule on training/performance demonstration - improved?

*? gotten worse since Feb 24, 83

- *** - optimistic schedule for reinspections
Case-load notes / for key dates

(3)

? • Ross - qualified - Blenky - no longer holds Book Asst QC Sup ?
? Horn - not sure of position. Asst. to Messershiem

• Ron G. - Wells evaluation - "Hurry-up" reference on
16257 training
16255 w/s. part. (Fauler QC Insp. attitude
16255-16256 ^{just} changing quality Trend Graphs - poor mg + de

Ross • Recent Problems - { By-Passing Hold Tags - Concrete
Load Test { Carlson Meter Installation Problems
{ PQCI Documentation forms / missed inspection
CPCs at Rail office during problems for de
*? notified NRC? Communication problem
- By-Passing Hold TAG - Spacing
- Conditional Release - misuse
= UST Audit

R. Cook • " " - DG Muccon, problem w/ availability of Document
in Jan. 83

Ross • CPCs Courtesy Call - to correct misinformation; i.e.,
Hold Tag Violation; being kept informed
• Attitude Improved

(4)

• Amount of rework - CCP / IDCVP = ?
DGB indicates great amount, could be considerable

• TERA Rpt of 5/24/83 (First Monthly Rpt) reviewed by
staff W!

* • Should MR. J. Cook be replaced as Vice-President at
Midland? No opinion - Ron Cook. A. J. Cook ultimately responsible
along with weak systems in Bechtel!

• D. Miller / M. Curland w/ proper resources could build and
operate a plant properly / safely - resources adequate? yes
Mgt Support? Not proper (R. word)

• "Stop Soils work." - criteria - license failed to stop!
Other - case-by-case

Ross - several occurrences since March testimony was prepared
have come close to a work stoppage - i.e. UST!

• Mr. Curland - issue stop-work if/as necessary

• Trench Group MOD - No cover up

Books
to site!
• Attachment 10 forms - How ident. first ^{CPCo audit Rpt. 7} - 83-03 dropped out
of audit when report

• 11/21/83 Davis Log - No NCR / audit finding - was dropped out of
Final Report

** • IPIN's at Grand Gulf by Bechtel!

• QIP - "Complete Project on time!"

(5)

(Inverted 'i')

- Shallow Spread Footing = 1 below freezing grade - Monticello - G'
- Mr. Kane, Mr. Seng & Dr. Landsman do not believe present building cracks / settlement improper.
Dr. Keller ^(Kane's soil) also agrees
- Dr. Schuman settlement monitoring in tech. spec / along with dewatering wells, etc.

M. Sinclair

- Schedule of NRC versus CPCo. (Case - Louis Panel)
Judge Harbour - Panel will issue dates & No official NRC position but to wait for the applicant for months; the NRC does not have to disclose now.

(RCOUL 83%)

- Per - Cent Completed - 85% * excluding soils
CCP, EDCVP, Hanger, etc will impact
soils not included - different track

??? Comprehensive plan / schedule

- * • CPCo / Bechtel have any soils specialist?
(Ross - Laugh) Yes - or staff? On site staff No specialist!

- Mr. Keppler's 3 issue can improve / make plant acceptable.
Strong NRC involvement - confidence does not exist.
- NRC carrying the ball, what about giving CPCo an OL, who will assure safe operation?
- Mr. Keppler to return to evaluate within 6 months

(6)

Panel 9: Significant changes - CCP, Third Party, Completing Plant, IDCU P,
Office of Special Cases (Military Section), - Cannot manage - Start - Stop - Start - Stop
Cause / cost will be unbearable.

Russ - Loss of confidence in soils areas

** - Backward look - 90%? ^{inaccessible} buried in concrete, success of program
would depend.

55 page of 125 would be affected, some are surveillance
Vendor audits / source inspection, etc record reviews are IT!

? * - CCP case-by-case exception - by NRC (S&W function)

- All remedial soils must be completed for both units
prior to fuel load.

- QA / Cost / Schedule - level of control - all
inclusive in reporting - J. Cook

R. Gardner - Political catch 22 on Case-load Panel discussion
with CFCO

- NRC - not a relevant issue to hearing matter

- 16479 - Transcript correct

(1) Add Ms. L. Bember to Service List

- C. Wilder's notes 2.744 exempt - Grant may review, 2.790 footnote (8) ~~(8)~~ handwritten notes with drafts are not to be turned over in FOIA Request!

Miller:

- QIP - (Selby/Wahl) statement -

Ross

- - UST Auth - results - inform NRC - OK
- Carlson nuclear problems - informed NRC (me, ...) of notes especially regarding - ... - ... - ...
- certification of QC Insp. - ...

?

- Collapse - C.A. OK
- emergency grant - by-passing WAP ?
- Removal of personnel ?

8/5/32 - Remove Margueta (CPCO) ...
 transmitted to Mr. Copples family ...
 w.s. {
 - within ... group; CONSCIOUSNESS of ...
 to remove
 - Landsman's statement ...
 - to mgmt. need a firm basis fact,

?

- Ross - No Regulatory Basis!
- U.S. - Margueta removal to Warrick. NRC Ma - ...
 CPCO - was not present.

(2)

• U.S. Observations - J. Cook } remove - no
R. Wells }

• Ross - Project Health and Safety of Public & ^{affected RA!} Design deficiency
means meeting optimum - (3 RA classic examples) original design
original design - T&E - S&F - in B&W - O&S
Design Def = (a) structure optimum but acceptable
(b) unacceptable structure

16319
16507
16517

- As designed, some property performance with a lot
been acceptable - however, a different situation
...
...

• Harbour - Removal of a QA type ground for a ...

• Adequacy of Record for QA/QC Records -
current documentation - waiver of NYS 2.6 state
IRC stand alone and assure base is not ...

- New program - much improvement, Mr. Straub - IRC of ...
Positive -

- Evaluative ongoing program

Barnhart - All QC Insp certified under new program - us
B&W, M&D, HVAC ?? NOT sure

(4)

- Subcontractor training - review and approve contracts / subcontractor procedures - CPCo ultimately responsible - QA Implementation by CPCo
- MAC report 1981 - improved ^{QA Program update} (Crosby - Associates) up - grade expectation full - fitment - Review by Gilroy - written power only - acceptable - Implementation - 2 - 100 - happy with!
- Cook / Reynolds - it is important to get things done

- Since 1981, acceptable performance (Cook / Reynolds) not implemented yet.

M. S. Smith

- MPQP - 1.2 - Implementation problems: (new / different) Design Reviews - soil work packages concern (not a recognized work control system) N.E.
- Bird's testimony -
 - MPQP - 1 - Purpose -
 - conclusions - acceptable (don't know)

Bechtel / CPCo cause program screening -
 - unable to do it right the first time - attitude - (Crosby & Schminke) negative
 on a positive note - a lot of work done.

- MPQP - 1 rev. 6 - under review review, was necessary - yet
- MPQP - 1 ^{first} time from certify - Bechtel continues to push for it
- Overinspection of those activity phases - Bechtel control, Supervision, first & Subsequent inspection - records

?? • UST Audit not under MPOP-1, related activities
 Normal periodic audit COP - Sales Group etc -
 also included in auditing -
 ? Other areas affected?

• Subcontractors - some are under 3A for work
 MPOPs - are under 3A for work -
 in ERM - some are under 3A for work -
 adequate? No - MPOP not necessary

CPCo/Bechtel - some are under 3A for work
 (MPOPs are under 3A for work - some are under 3A for work -
 FSO - some are under 3A for work -

3A - some are under 3A for work -
 3A - some are under 3A for work -

• MPOP - selected ground

• CPCo NUT, 2% under 3A for work -
 by active! requirements not accurate

• Con-works contract to Bechtel supervisors supervise
 Bechtel 20 inspectors

Field office may dictate charge cases enforcement -
 action!

* • MPOP-1 audits - found some type of problems in
 UST Audit - not complete!

(6)

UST

when MPQP-1 cases to - 2.8 UST!
continued to work since auto - 0 - 100 - 100

- what cases are in the
UST

- UST

WRC

WRC

action -

Special

Inspection -

Conduct

UST: take out

9.7.95



ALOB

6/8

① 81-13 Nine Point Report naming a S&W employee currently at Midland? (Mr. Holsinger Intervenor's given report to review; 81-13 a CAT Report (2-6 pgs. missing).

② Boos Issue

March 10, 82 - meeting w/ CPCo / NRA Boos

March 12, 82 - telecon w/ CPCo

March 17, 82 - Gardner / Landman Engr.

Boos

"Q" was
continued
other meeting
supplying
revised etc

• Keppler / Marquillo agreement - ?

• IAL / CAL, neither was issued [Reverse CAL] staff (Ron, Ross, Ron) opinion, but reaction was nil!

* (add) Ret. other cases of Non / Reverse CAL / IAL
Lack of proper enforcement action.

Misleading / misunderstandings by CPCo.

(1) "Qness, soil borings (core of eng) requested, adequately
No QA Program - fight with licensee - NRA ^{not} action
NRA Approval -

(2) Also R-P-Rap was not "Q" within the bounds
of C-45

(3) Violation of Board Order - dig below deep cut Bank

(4) Look West Pier - Carlson problems - told by CPCo. OIC

OK per telecon with ~~Mr. Cooke~~ / B. Warrick

(5) Loose sands issue - Budget/mooney - mislead - eyes - not true.
• Single point contact Mr. Mooney, responsible for all previously stated issues.

• Other agreement w/ ~~RHS~~ / CPCo ? can't recall

• Investigation failed to reach a conclusion
new format pre-O I, reports only facts, WASH. decision! when - late April, BZ.

Draft cover letter - 3 -

DRAFT - 1 - Ross could not concave said no. 2. -

Draft - 2 - Ross (Rsn - • Not a material false statement
• Mislead, chastize the license

Draft - 3 to!
• Boos Lie, could not prove it!

6 months issue

- Keppler to Selby - on fence ^{prove it!} _{CPCo, FWS} next time might not be so lucky

- final letter was sat factoring with Ross / For.

** Burns -
ELD
12 pg.
statement
on Maximal
false statement
(circled)