

October 17, 1984

Docket Nos. 50-354
50-355

Public Service Electric & Gas Company
ATTN: Mr. T. J. Martin
Vice President
Engineering and Construction
80 Park Plaza - 17C
Newark, New Jersey 07101

Gentlemen:

Subject: NRC OI Investigation at Susquehanna (1-82-065)

Between July 19 and November 18, 1982, the NRC Office of Investigation (OI) conducted an investigation of construction activities at the Susquehanna Steam Electric Station (SSES), Unit 1, Berwick, Pennsylvania. The investigation was conducted in response to a series of allegations received by the NRC Senior Resident Inspector at SSES. The results of the investigation are described in the enclosed investigation report summary.

During the investigation, examples of falsification of records by employees of the Bechtel Power Corporation were identified. Specifically, the falsification involved: (1) individual "checkers" of pipe drawings signing off the approval of the designs using the initials of a lead pipe engineer without authority to do so; (2) a drafting group supervisor making drawings himself and placing the initials of a non-existent person in the originator block of the documentation and using his own initials in the "checker" block; and (3) the backdating of a pipe support calculation, qualifying a jet pump anchor, after the original calculation was lost.

The NRC considers any issue of falsification of records a serious concern. Although there was no evidence that Bechtel corporate or upper site management were involved in the falsification, these events demonstrate the importance of adequate monitoring of activities performed during the construction of nuclear power plants.

Since Bechtel is the principal contractor for the Hope Creek Nuclear Power Plant, you should assure that Bechtel's staff activities are adequately controlled by supervision, and adequately monitored by management. Further, you should assure that required records are correctly and accurately generated and maintained.

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Public Service Electric & Gas Company 2

In accordance with 10 CFR 2.790, a copy of this letter and the enclosure will be placed in the NRC Public Document Room.

Sincerely,

Original signed by
Thomas E. Murley
Thomas E. Murley
Regional Administrator, RI

Enclosure: Investigation Summary

cc w/encl:

A. E. Giardino, Manager, Quality Assurance Engineering
and Construction
R. L. Mittl, General Manager, Nuclear Assurance and Regulation
Hope Creek Hearing Service List
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
NRC Resident Inspector
State of New Jersey

Pennsylvania Power & Light Company
ATTN: Mr. Bruce D. Kenyon
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Bechtel Corporation
ATTN: Mr. H. O. Reinsch
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bcc w/encl:

Region I Docket Room (with concurrences)
DPRP Section Chief
J. Grant, DPRP
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UNITED STATES
 NUCLEAR REGULATORY COMMISSION
 OFFICE OF INVESTIGATIONS FIELD OFFICE, REGION I
 631 PARK AVENUE
 KING OF PRUSSIA, PENNSYLVANIA 19406

REPORT OF INVESTIGATION

TITLE: Susquehanna Steam Electric Station Unit 1/Allegations of Improper Design, Installation and Testing of Small Bore Pipe Hangers

SUPPLEMENTAL: Docket Number 50-387

CASE NUMBER: 1-82-065

DATE: September 7, 1983

REPORTING OFFICE: Office of Investigations
 Field Office, Region I (OI:RI)

STATUS: CLOSED

PERIOD OF INVESTIGATION: July 19, 1982 through November 18, 1982

REPORTING INVESTIGATOR: R. K. Christopher
 R. K. Christopher, Director
 Office of Investigations Field Office, Region I

PARTICIPATING PERSONNEL: R. A. Matakas, Investigator
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 J. E. Foster, Investigator
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REVIEWED BY: for Peter E. Gani
 William Ward, Director
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REVIEWED BY: Roger Fortuna
 Roger Fortuna, Acting Deputy Director
 Office of Investigations

APPROVED BY: Ben B. Hayes
 Ben B. Hayes, Director
 Office of Investigations

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SUMMARY

This investigation was conducted separately but in conjunction with NRC Region I Special Inspections 50-387/82-31 and 50-387/82-34 in response to a series of allegations received by the NRC Senior Resident Inspector at the Susquehanna Steam Electric Station (SSES) regarding the design, installation, and inspection of small bore pipe hangers at SSES Unit 1.

Within the scope of this investigation, six allegations were investigated by the Office of Investigations Field Office, Region I (OI:RI). These allegations included, assertions by the alleged that management from the primary plant contractor (Bechtel Power Corporation) ignored design problems with certain small bore pipe anchors in the interest of maintaining construction schedules, intimidation of a field inspections engineer, altering of design drawings for small bore pipe hangers, falsifying a qualifying calculation for a recirculation system jet pump anchor, false and inaccurate recording of "as-built" hanger inspection records and allegations that contractor design engineers were threatened and/or coerced into accepting small pipe hanger designs without doing the proper stress review.

The investigation included the interview of numerous individuals from the various disciplines of the Bechtel Construction organization including the engineering and plant design staffs. It was determined that while certain Bechtel field supervisors were generally aware of design problems with small bore pipe hanger designs (Detail 600 and Standard Pipe Anchor (SPA) 1312 designs), no formal Nonconformance Reports (NCR) or Design Change Requests were ever initiated to formally address the design problems. It was also determined that the initiation of these NCRs would normally have been the responsibility of field engineers such as the alleged and would have then required the Resident Engineering Department to formally address the design problems. As a result, no formal action or discussions took place to resolve the design problem at Unit 1 until July of 1982 when an NCR was initiated at SSES Unit 2 on this same issue. The investigation did not surface any indication that either senior Bechtel site management or the licensee (Pennsylvania Power and Light) were aware of the design problems with the Detail 600 and SPA 1312 designs and failed to take corrective action in the interest of maintaining construction schedules.

With regard to the alleged's allegation that a field inspections engineer at Unit 1 was being forced to accept inadequate pipe hanger installations, the engineer in question was interviewed and in a sworn statement denied that he had ever been threatened or coerced as stated by the alleged.

Interviews of personnel in the Bechtel Small Pipe Drafting Department did not substantiate that changes were being made to design drawings without the proper review but did determine that the personnel from the drafting department were signing off the approval of the small pipe hanger designs with the initials of the Lead Piping Engineer without the authority to do so. The investigation also determined that this practice was terminated by Bechtel management prior to initiation of this investigation. Additionally, it was determined that the supervisor of the Small Pipe Drafting Department was

preparing design drawings himself but giving credit for the drawing to a draftsman who did not exist by using fictitious initials in the originators identifier block of design drawings. During the interview, the drafting supervisor acknowledged his activities and stated that this activity was performed on his part to circumvent a Bechtel field procedure that required the individual who checked and approved the drawing to be different than the individual who originated the drawing. The drafting supervisor denied that any of his supervisors were aware of this practice.

Interviews of personnel from the Bechtel Resident Engineering Department determined that when a calculation for qualifying a jet pump anchor for Unit 1 was lost, the supervisor of the Pipe Support Section of the Resident Engineering Department directed one of the engineers to prepare a new calculation in July, 1982 to support the qualification of the anchor. When interviewed, the supervisor of the Pipe Support Group acknowledged that he had taken that calculation done in July, 1982 and backdated the calculation to October, 1981 in order to conform to the requirement that a qualifying calculation be available to support the anchor design and installation.

During interviews of plant engineering personnel and a review of "as-built" hanger inspection summary sheets, it was determined that the hanger installation records did not reflect an improper inspection record of the "as-built" hangers as purported by the allegor. It was determined that the allegation was based on a misunderstanding of the use and meaning of the documents on the part of the allegor. The hanger summary sheets were discovered to be an interim acceptance document and had no bearing on the final hanger acceptance.

In the last allegation, the allegor asserted that design review engineers were being forced and/or coerced to approve small bore pipe hanger designs without doing the proper review in order to maintain construction schedules. In response to specific questioning, the allegor acknowledged that he had no direct knowledge of this purported activity and stated the allegation was based on second hand information. Subsequent interview of numerous engineers involved in the review process in question did not substantiate the allegation of threats and/or coercion being used during the review process by supervisory personnel.