

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION
Harold R. Denton, Director

In the Matter of)	Docket No. 50-333
POWER AUTHORITY OF THE STATE)	(10 CFR 2.206)
OF NEW YORK)	
(James A. FitzPatrick Nuclear)	
Power Plant))	

DIRECTOR'S DECISION UNDER 10 CFR 2.206

I.

By letter to the Commission dated September 12, 1983, Eilyn R. Weiss and Robert D. Pollard, on behalf of the Union of Concerned Scientists (hereinafter referred to as UCS or the petitioner) requested that immediate action be taken to suspend operation of the James A. FitzPatrick Nuclear Power Plant. UCS based its request upon correspondence it had obtained which questioned the adequacy of pipe supports at FitzPatrick. That correspondence, a letter dated June 30, 1983 from Target Technology, Ltd. to the FitzPatrick licensee, the Power Authority of the State of New York, (PASNY) informed PASNY of Target's opinion that piping supports at FitzPatrick required corrective action. Target had been hired by PASNY to reanalyze a group of pipe supports at FitzPatrick following the discovery in 1979 that Stone and Webster, the facility's architect-engineer, had apparently miscalculated the seismic stresses in certain safety-related piping systems with which these supports¹ were associated.

¹ Hereinafter designated as "affected supports."

Based on the concerns expressed by Target, the petitioner requested an immediate shutdown of FitzPatrick to enable a full NRC inspection of the questionable pipe supports. UCS asked that operation not be resumed until "commitments" made in the FitzPatrick Final Analysis Safety Report (FSAR) and requirements contained in applicable Office of Inspection and Enforcement (IE) Bulletins had been met at FitzPatrick. The petitioner further requested that the Commission initiate appropriate enforcement action regarding these issues, in particular requesting that the NRC determine whether the reporting requirements of Part 21 of the Commission's regulations were violated regarding the Target letter, or whether a material false statement was made by PASNY in certifying to the NRC that the calculated stresses of the piping supports were checked against the applicable standards. UCS's letter was referred to the staff for treatment as a petition pursuant to section 2.206 of the Commission's regulations.

By letter dated September 23, 1983, the Director of the Office of Nuclear Reactor Regulation, denied the petitioner's request for immediate relief. At that time, it was determined that the pipe support systems at FitzPatrick did not pose an immediate safety hazard, based upon the licensee's reassessment of the pipe support analyses and corrective actions and the NRC's own visual assessment of a sample of the pipe supports alleged to be damaged.

Upon my request pursuant to 10 CFR §50.54(f), the licensee responded to UCS's petition by letter dated November 18, 1983. The staff has evaluated the UCS petition and other pertinent information. For the reasons stated in this decision, the petitioner's request is denied.

II.

A brief historical review is helpful at this point to place the petitioner's assertions in proper perspective. In March 1979, in the course of evaluating certain piping design deficiencies at the Beaver Valley Power Station, significant discrepancies were observed between the computer code employed by Stone and Webster in the original seismic analysis of safety-related piping systems and the then currently acceptable computer code. These discrepancies were attributed to the different methods used to combine earthquake load components. It was determined that these discrepancies had the potential to cause significant adverse effects on the ability of certain piping systems to withstand seismic events. As a result, the Beaver Valley licensee suspended power operation of that facility on March 9, 1979. It was also found that four other facilities, including FitzPatrick, could anticipate similar problems because the same erroneous computer code was employed in the original designs. Consequently, the NRC ordered these plants to suspend operation until such time as all affected safety-related piping systems were reanalyzed for seismic events using the acceptable computer code. If the reanalyses indicated components which deviated from applicable American Society of Mechanical Engineers (ASME) code requirements, suspension of operation was to continue until such deviations were rectified. The Show Cause Order suspending operation of FitzPatrick was issued on March 13, 1979. See 44 Fed. Reg. 16510 (March 14, 1979).

In response to the findings at Beaver Valley, IE Bulletin 79-07, "Seismic Stress Analysis of Safety-Related Piping," was issued to all power reactor licensees on April 14, 1979. This bulletin requested licensees to identify all safety-related piping systems for which seismic analyses were performed using the erroneous modal-response combination technique, and to submit a plan of action and estimated schedule for seismic reanalyses of these systems. Licensees were also requested to conduct a preliminary assessment of safety impacts. The bulletin also specified that all reanalyses should reflect the existing or "as-built" configurations of the piping systems and associated supports. On July 2, 1979, IE Bulletin 79-14, "Seismic Analysis for As-Built Safety-Related Systems," was issued to all licensees in order to address the subject of non-conformance with design documents, as reflected in "as-built" piping system configurations, and the impact of these non-conformances on the validity of seismic analyses performed as part of the original design. This bulletin requested licensees undertake an inspection program to verify conformance to design documents, and to consider the need for seismic reanalyses where non-conformances were identified.

The NRC lifted the suspension of facility operation imposed by the March 13th order on August 14, 1979 upon finding that the licensee had shown cause why operation of the FitzPatrick plant should not remain suspended, and that "FitzPatrick could safely withstand the effects of seismic events should they occur." See 44 Fed. Reg. 49530 (August 23, 1979). At this point in time, the licensee had completed reanalyses of all affected supports inaccessible during normal operation as

well as many of the accessible supports². The August 14th order required the licensee to complete reanalyses of the remaining supports and to propose a schedule for implementation of any needed modifications within sixty days of startup. The licensee also continued its efforts to respond to the action items contained in IE Bulletins 79-07 and 79-14. Staff reviews later found the licensee's responses to 79-07 and 79-14 acceptable and these bulletins were subsequently closed out for FitzPatrick³.

Target Technology, Ltd. was retained by the licensee in 1979 to perform pipe support calculations for 348 supports at FitzPatrick. These supports were identified by the licensee as possibly requiring modifications as a result of the seismic reanalyses performed in connection with IE Bulletins 79-07 and 79-14 and the Show Cause Order. In a September 3, 1980 letter from Target to the licensee, Target indicated that its effort was nearing completion and that the calculations performed so far were limited to meeting the acceptance criteria for the combination of normal plus seismic loads. Target proposed a follow-on task of determining whether the 348 supports also satisfied the acceptance criteria for normal operating loads only. An estimated scope of work and proposed cost for this task were provided in the letter.

In a subsequent letter dated December 20, 1982 from Target to the licensee, Target stated that the pipe support evaluations performed in 1979-80 were not in complete compliance with the licensee's FSAR commitments because the supports were not evaluated against normal load

² Modifications to these supports, where indicated by the reanalyses, were completed prior to startup.

³ See NRC Inspection Reports 50-333/81-09, 50/333/81-12, and 50-333/84-04.

acceptance criteria. Furthermore, Target stated that "there may be supports which will require modification to bring the plant to FSAR compliance" and that it considered this matter to be a safety concern as well as a potentially reportable item under 10 CFR Part 21. On January 3, 1983, Target provided the licensee, at the latter's request, with a sample list of twenty supports which, according to Target, had the potential of not meeting code allowable limits for normal operating loads. The licensee referred this list to Stone and Webster for evaluation and concurrently initiated its own evaluation to determine whether a reportable defect under 10 CFR Part 21 existed.

In a third letter from Target to the licensee dated June 30, 1983, Target documented its comments on a meeting which took place on June 27th among the licensee, Stone and Webster, and Target to discuss the pipe support matter. In this letter, Target stated that some supports included in its January 3, 1983 list of twenty supports "clearly exhibit physical signs of structural damage from normal operating loads and have safety implications for the plant⁴." Furthermore, Target alleged that "because the as-built condition of the plant did not match the piping configurations which were initially analyzed," the support loads changed dramatically for many supports. In addition, Target stated that the design code actually employed for pipe supports at FitzPatrick was not consistent with design code commitments contained in the Final Safety Analysis Report (FSAR).

To assess the allegations made by Target regarding pipe support deficiencies at FitzPatrick, the licensee retained United Engineers and

⁴ Target did not specifically identify which supports, or how many, exhibited damage.

Constructors. United Engineers' effort, which commenced during the summer 1983 refueling outage, consisted of a review of Stone and Webster's analytical methodology, procedures and calculation packages for pipe support design at FitzPatrick. United Engineers also performed field inspections of selected pipe supports to verify that piping system/support design configurations were reflected by the as-built condition of pipe supports. While United Engineers' field inspections identified certain dimensional discrepancies in several supports, none of the supports showed any evidence of physical damage.

III.

The petitioner's request for initiation of enforcement action was based upon five concerns the petitioner believed Target raised in its June 30, 1983 letter to the licensee. See Petition at 2. These issues are discussed below.

1. Ability of FitzPatrick Pipe Supports to Withstand Normal Operating Loads

In questioning the adequacy of a large number of pipe supports to withstand normal operating loads, the petitioner relies upon alleged evidence of physical damage to various supports, as reported by Target. In addition, UCS alleges that discrepancies exist between as-built piping system configurations and the configurations used in many of the original design calculations. See Petition at 2.

Assessment of this concern has been the focal point of independent inspections conducted by the licensee, the NRC, and United Engineers and Constructors. The licensee performed a visual inspection of 18 of the 20 supports⁵ identified by Target as having a seismic loading component of less than 33 percent of the total load. This loading component is significant in that it raised the possibility that code allowable limits for normal operating loads alone may not be met. The inspection, which was conducted in July 1983 during FitzPatrick's refueling outage, revealed damage to only one of the supports. The damage, which was confined to a structural steel I-beam located above a trunnion on a main steam line, consisted of a localized deformation of the beam's lower flange and cracked concrete surrounding the base plate embedment to which the beam was welded. The licensee had been aware of the flange deformation since 1979 when it was discovered during field walkdown activities related to IE Bulletin 79-14. An evaluation of the bent flange conducted by Stone and Webster and the licensee at the time of its discovery in 1979 indicated that the support was still capable of withstanding normal operating loads. The cracked concrete, however, was not identified in 1979 because the area (a main steam tunnel wall) was covered with insulation and the embedment was not considered to be within the inspection boundary of the pipe support under IE Bulletin 79-14.

⁵ Of the two remaining supports, one was modified and relocated within the torus during the 1981-82 refueling outage and other was modified during the summer 1983 outage. These modifications were the result of the Mark I Containment Long Term Program (for all Mark I licensees) and provided an increased safety margin to the subject supports.

A subsequent inspection by the NRC during the summer 1983 outage of a sample of the group of 20 supports called into question by Target, including the single support identified by the licensee as being damaged, showed no other evidence of damage. In addition, both the NRC and United Engineers inspected supports other than those called into question by Target during the summer 1983 outage and after restart in autumn 1983. These inspections focused on supports located in high-energy, large-diameter piping systems, located near critical components and penetrations. No other evidence of pipe support damage was identified⁶.

Assessment of the impact of discrepancies between as-built and as-designed piping system data on the validity of piping and support analyses has been addressed by the licensee in response to IE Bulletin 79-14. It should be emphasized that both IE Bulletins 79-14 and 79-07 were directed at potential non-conservatism in only the seismic portion of the pipe stress analyses performed for safety-related systems⁷. Bulletin 79-07 addressed an error discovered in the method employed to combine earthquake load components.

⁶ The specific scope, support sampling rationale, and findings of the inspections performed by the licensee, NRC, and United Engineers have been documented in the following references:
Letter from J. P. Bayne (PASNY) to D. B. Vassallo (NRC)
(September 21, 1983); NRC Inspection Report 50-333/83-18;
NRC Inspection Report 50-333/83-24; Letter from R. W. Barton
(United Engineers) to J. P. Bayne (PASNY) (December 19, 1983).

⁷ Pipe stress analysis entails computation of the responses from both normal operating and earthquake loadings. Resulting loads at support locations are computed as part of these analyses.

This error, which led to the five plant shutdown in March 1979 and subsequently to the issuance of 79-07, therefore had no bearing on the normal loads portion of the piping system analyses or on the associated normal loads acting on the supports.

IE Bulletin 79-14 regarding non-conformances to design documents, however, did have a potential effect on the normal loads portion as well as the seismic portion of the piping system analyses, even though the bulletin itself addressed only the latter. Identification of non-conformances at FitzPatrick was conducted concurrently with the licensee's efforts with respect to IE Bulletin 79-07, which specified that any reanalyses reflect as-built data, and the Show Cause Order. As a result, any significant non-conformances, as they were discovered, were factored into the reanalyses which, as stated above, consisted of both a seismic load and a normal load analysis. Therefore, both the seismic and normal support loads computed during the 1979 reanalysis effort reflected as-built data. Modifications were made to those supports where a potential safety concern could have existed, as identified by the reanalyses and resulting from the computer code error and/or as-built non-conformances. These modifications resulted in increased support strength, and were intended to enhance the ability of the affected supports to withstand earthquake loads.

The 1983 inspections performed by NRC and United Engineers also included an assessment of non-conformances in safety-related piping systems. United Engineers' field inspections of a sample group of supports, and a subsequent inspection by the licensee, identified certain dimensional

discrepancies in several supports⁸. These supports, however, showed no evidence of physical damage. The discrepancies consisted of undersized or missing fillet welds and dimensional deviations in structural steel members. Although these discrepancies would not contribute to support damage under normal plant operation, and were of a nature such that invalidation of piping stress analyses would not be expected, Stone and Webster reevaluated the affected supports using the as-built data to ascertain analytically whether these discrepancies challenged the ability of the supports to withstand normal operating loads. Stone and Webster concluded, on the basis of this reevaluation and from the lack of visual evidence of damage, that the integrity of the supports under normal loading conditions was not compromised⁹. The staff performed an audit of Stone and Webster's reevaluation effort, including the methodology employed and a representative sampling of calculations, and found it to be acceptable¹⁰.

⁸ See letter from R. W. Barton (United Engineers) to J. P. Bayne (PASNY) (November 11, 1983); Letter from J. P. Bayne (PASNY) to D. B. Vassallo (NRC) (December 19, 1983).

⁹ See letter from J. P. Bayne (PASNY) to D. B. Vassallo (NRC) (December 19, 1983); Letter from J. P. Bayne (PASNY) to D. B. Vassallo (NRC) (January 20, 1984).

¹⁰ To determine whether the integrity of the supports under seismic loading was compromised, Stone and Webster also performed a seismic loading reevaluation of the affected supports and concluded that the discrepancies identified by United Engineers and the licensee did not result in an inability of the supports to withstand earthquake loadings. In addition, the staff audited Stone and Webster's seismic load reevaluation for the affected supports. This audit, which was similar in scope to the normal loads audit, found Stone and Webster's effort to be acceptable.

An assessment by the NRC of the damage to the main steam line support attributes the cause of the damage to improper installation resulting in insufficient clearances to accommodate normal thermal expansion of the main steam piping. This conclusion is supported by the staff's examination of photographs of the damaged support provided by the licensee and taken during the summer 1983 outage. This examination indicated that the local deformation evident on the lower flange of the I-beam as well as the visible pattern of concrete damage is consistent with the directions and points of application of the forces and moments that would be induced by restraint of thermal growth. Examination of photographs of a mirror image support on another main steam line of identical configuration and subject to the same design loadings showed no evidence of physical damage.

To correct the deficiency arising from the damage to the main steam line support, the licensee modified the support prior to plant restart in September 1983 to eliminate the need for the load resisting capacity of the damaged embedment. Although the loads induced by thermal restraint will still exist at the modified support, their magnitudes should now be significantly reduced because of the additional clearance created by the locally deformed lower flange. Nevertheless, as part of NRC's continuing inspection program, the staff plans to inspect this support during the next outage to verify the adequacy of the modifications.

Based on the above considerations, the petitioner's concern that a large number of supports at FitzPatrick may not be able to withstand normal operating loads appears unfounded.

2. Lack of Consideration of Normal Operating Loads

UCS relies upon Target's June 30, 1983 letter as the basis for its concern that design calculations were never performed for normal operating loads during the 1979 seismic reevaluation effort ordered by the NRC. UCS appears to be concerned that many of the supports at FitzPatrick, particularly those subjected to a relatively low seismic loading component, would not meet the normal load criterion. The technical issue inherent in this concern is whether the support designs at FitzPatrick meet the acceptance criteria for normal loads, and whether a loss of support integrity can result under normal operating conditions if these criteria are not met. See Petition at 3.

Piping stress analysis entails the computation of pipe wall stresses at various locations in a piping system as caused by pressure, deadweight loads, other sustained mechanical loads, thermal expansion, and occasional loads including those due to earthquakes. This information is used in design of the piping itself. In addition, the results of the piping analysis provide input to the support analysis for each of the designated loading conditions. The pipe support stresses are then calculated and compared to allowable stresses specified in the acceptance criteria for each loading condition.

The loading conditions and allowable stress limits applicable to support design for FitzPatrick are as follows:

$DL + THER + SRSS (DBE, OCC) \leq 1.33 \times ALLOWABLE$
(seismic loading condition, allowable limit)

$DL + THER + OCC \leq ALLOWABLE$
(normal loading condition, allowable limit)

where

DL = Deadweight Load
THER = Thermal Load
DBE = Design Basis Earthquake Total Load
OCC = Occasional Transient Loads
SRSS = Square Root of Sum of Squares (of quantities in parenthesis)
ALLOWABLE = American Institute of Steel Construction (AISC) Code Stress Basis Allowable

These loads, load combinations, and allowable limits are part of a design specification developed by the licensee in order to comply with the American Institute of Steel Construction (AISC) Code. It is the second criterion, pertaining to normal operating loads, that concerns the petitioner.

UCS is particularly concerned by Target's allegation that Target was told by the licensee and Stone and Webster in 1979 not to consider the second criterion pertaining to normal operating loads as part of the support evaluation effort. Whether or not Target was told not to conduct a normal loads evaluation has little, if any, bearing on the ability of the pipe supports to withstand those loads. As noted earlier, the major issue in the five plant shutdown and the issuance of IE Bulletins 79-07 and 79-14 was the validity of the seismic portion of the design basis pipe stress analysis and, consequently, the ability of the supports to withstand earthquake loads, as determined by meeting the seismic acceptance criterion

set forth above. The March 1979 Show Cause Order and Bulletins 79-07 and 79-14 did not specifically request the licensee to determine whether the facility's supports met the normal load acceptance criterion. Furthermore, the codes applicable to pipe support design for FitzPatrick do not explicitly state the load combinations to be met for subsequent pipe support changes, including whether normal loads needed to be calculated¹¹.

No threat to public health and safety would result from the case in which supports satisfying the seismic condition allowable limit were not checked against the normal load condition allowable limit. This conclusion is based on the following considerations. In the worst case, where the seismic load component (DBE) in the first condition was zero, the allowable stress limits would be exceeded by a maximum of 33 percent. Because of the safety factors employed in defining the allowable limits, an increase of this amount would not result in the material yield stress being exceeded with an attendant loss of support integrity. As a result of the reanalyses performed in 1979, the as-built piping system configurations were reflected in both the normal load and seismic load terms appearing in these conditions.

Furthermore, the licensee performed a normal loads evaluation in August 1983, using the second condition for each of 342 supports within the scope of Target's original work to determine if the code allowable for normal

¹¹ However, the staff would require the licensee to perform and document a normal loads evaluation for plant modifications when the lack of a normal loads evaluation would impact the technical specifications or result in an unreviewed safety question. See 10 CFR 50.59. Neither of these situations arose from the pipe support design procedures used by the licensee during the FitzPatrick seismic reevaluation effort.

loads was, in fact, exceeded. Based on this analysis, 337 supports were found to be within the allowable limits. The limits were exceeded for five supports. Further detailed evaluation of these five supports revealed the use of many conservatisms in the original design computations. By use of more realistic assumptions, the licensee was able to demonstrate that normal load limits would, in fact, not be exceeded. The staff audited the normal loads evaluation performed by the licensee, including the calculation packages for the five supports that exceeded code allowable limits. This audit, which comprised an evaluation of the methodology employed and an examination of a representative sampling of calculations, found the licensee's effort to be acceptable. Additionally, Stone and Webster performed and documented a normal load reevaluation of all affected supports for which it was the engineer-of-record, which included the 20 supports identified by Target, and determined that the normal loads condition was met in all cases. The staff performed a similar audit of Stone and Webster's reevaluation effort and found the Stone and Webster reevaluation to be acceptable. The total number of supports evaluated by the licensee and by Stone and Webster comprise all the affected supports at FitzPatrick. Therefore, the staff concludes that the normal loads acceptance condition has been satisfied for all affected supports and that no structural modifications to these supports are necessary.

3. Use of Appropriate Code Regarding Earthquake Stresses

The petitioner relies upon Target's understanding of the FitzPatrick FSAR to question whether the proper standard was used in designing the pipe

supports to withstand seismic loads. It is asserted that in the FSAR the licensee stated it would use ANSI Code B31.1.0 - 1967 in designing the FitzPatrick pipe supports. In fact, stated Target, the FitzPatrick architect/engineer used the AISC code in designing the supports. Consequently, the petitioner is concerned that supports found acceptable using the AISC code could exceed the allowable limits for seismic loads under ANSI B31.1.0. See Petition at 3-4.

According to the licensee, both the ANSI B.31.1.0 and AISC codes were utilized in the design of supports at FitzPatrick¹². Integrally welded or bolted attachments to piping and standard catalog items such as hangers and spring cans were designed in accordance with ANSI B31.1.0, whereas the AISC code was employed for supplementary steel support members. Use of the AISC code for the design of these members is consistent with Section 120.2.4 of ANSI B31.1.0, which states that "supplementary steel shall be designed in accordance with the standards prescribed by the American Institute of Steel Construction (AISC) or the equivalent." In sum, the petitioner's allegation appears to stem from a misinterpretation regarding proper application of the design codes¹³.

¹² See letter from J. A. Gray (PASNY) to H. R. Denton (NRC) (November 18, 1979).

¹³ The petitioner questions whether the licensee made a material false statement "in certifying to NRC that all calculated stresses were checked against the allowables specified in ANSI Code B31.1." when in fact an AISC code was also utilized. See Petition at 7. The statement at issue in the FitzPatrick FSAR is not false or misleading. The ANSI standard which the licensee stated in the FSAR would be used for piping elements, see Final Safety Analysis Report, James A. FitzPatrick Nuclear Power Plant, Vol. 8 at C. 12.5-16 (July 1982), sanctions use of the AISC standard for supplementary steel support members. Thus, the licensee complied with ANSI B31.1.0 in designing the FitzPatrick pipe supports.

4. Failure to Take Action on Problems Identified by Target Technology

In its June 30, 1983 letter, Target expressed its concern to the licensee that activities Target viewed as necessary to comply with IE Bulletins 79-02, 74-07 and 79-14 had not been completed. Target noted that it had informed PASNY in letters dated September 3, 1980 and December 20, 1982, of the necessity for additional action¹⁴. The petitioner uses this information to assert that the licensee has been on "written notice...since at least September of 1980" of the need for additional action. Accordingly, the petitioner views the licensee's failure to take action on the "defect" identified by Target until July 1983 as a violation of 10 CFR Part 21 for which enforcement action is appropriate. See Petition at 4-5,7.

Part 21 of the Commission's regulations, which implement section 206 of the Energy Reorganization Act, requires:

Any individual director or responsible officer of a firm constructing, owning, operating or supplying the components of any facility or activity which is licensed or otherwise requested pursuant to the Atomic Energy Act... who obtains information reasonably indicating: (a) that the facility, activity or basic component... fails to comply with the Atomic Energy Act... or any applicable rule, regulation, order or license of the Commission related to substantial safety hazards or (b) that the facility, activity, or basic component... contains defects, which could create a substantial safety hazard, to immediately notify the Commission of such failure to comply or such defect, unless [the responsible officer or individual director] has actual knowledge that the Commission has been adequately informed of such defect or failure to comply.

10 CFR 21.1, 21.21(b) (emphasis added). The obligation to make a Part 21 report to the NRC does not arise until it is determined that a defect within the meaning of Part 21 indeed exists. Accordingly, each entity, including

¹⁴ In Target's view, the additional action to be taken was a normal loads evaluation of the piping supports.

a facility licensee, subject to Part 21 is required to adopt appropriate procedures to evaluate deviations to determine whether a defect within the meaning of Part 21 exists. Licensees and other affected entities are also required to adopt appropriate procedures to assure that, if a defect is found to exist, a director or responsible officer is informed of that defect. See 10 CFR 21.21(a).

Target's letter of September 3, 1980 cannot reasonably be construed as containing information that would indicate a deviation which would require PASNY to conduct an evaluation to determine whether the deviation was indeed a defect within the meaning of Part 21. Target stated that: "the purpose of this letter is to follow-up our recent discussion regarding the status of the pipe support design calculations performed by Target... with respect to long term FSAR and Code compliance requirements." To trigger a Part 21 evaluation, a deviation must be cast in terms of a safety concern. Target's September 3, 1980 letter falls short in this regard. Target did not state or otherwise indicate that a reportable defect might exist, nor call a potential safety concern to PASNY's attention. The letter is more appropriately viewed as correspondence between a contractor and licensee suggesting that follow-up work be considered. Since normal loads calculations were not explicitly required by the NRC, the staff would not have expected that the licensee undertake a Part 21 evaluation in response to Target's 1980 letter. It was in Target's second letter, dated December 20, 1982 that Target identified its concern as being a potential deficiency reportable under Part 21.

Upon receipt of Target's December 20, 1982 letter, the licensee took action to determine whether a reportable defect existed. PASNY solicited from Target, and received on January 3, 1983, a sample list of affected pipe supports. The sample list, along with Target's December 20th letter, was referred to Stone and Webster for evaluation to determine if Target's concerns were valid. While awaiting a response from Stone and Webster, PASNY commenced a formal Part 21 evaluation. Based upon its review, PASNY determined that a Part 21 reportable defect was not likely, because even if Target's concerns were correct about not performing the calculations, the maximum overstress above any support's design would be 33 percent. Given the conservatisms used in designing the supports, exceeding the allowables by 33 percent would not compromise the integrity of any support. This initial determination has been subsequently confirmed by the NRC, PASNY, and United Engineers. Accordingly, no Part 21 reporting violation occurred with respect to Target's December 20, 1982 letter.

5. Generic Implications of Concerns Regarding Normal Operating Loads

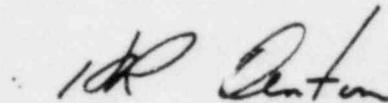
Given the concerns Target raises regarding calculation of normal operating loads at FitzPatrick, the petitioner is concerned that pipe supports at the other four plants shut down with FitzPatrick in 1979 may also be overstressed under normal operating loads. As stated by the petitioner: "[S]ince pipe supports which may be overstressed for normal operating loads have been found at...FitzPatrick...and since Stone and Webster was the architect-engineer and constructor of all five plants, the Beaver Valley Unit 1, Surry Units 1 and 2, and Maine Yankee plants may have similar conditions of safety significance." See Petition at 6.

As noted earlier, the error discovered in the seismic computer code used by Stone and Webster, which led to the 1979 five plant shutdowns and subsequently to the issuance of IE Bulletin 79-07 and 79-14, had no bearing on the validity of the original normal loads calculations or the ability of the supports to withstand normal operating loads. Stone and Webster's error involved the method used to combine seismic load components and, as such, had no effect on the magnitude of the normal loads employed in the pipe support calculations. Modifications made to supports, as deemed necessary by the seismic reanalyses, provided an enhanced ability of the supports to withstand earthquake loads. Moreover, the pipe support damage at FitzPatrick was limited to a single support in the main steam system. This damage appeared to result from a site-specific problem with improper installation of that particular support. Hence, the results of the seismic and normal loads reanalysis at FitzPatrick do not indicate a substantial safety problem warranting NRC action at the other plants.

Based on this damage assessment, on the inspections performed by the licensee, NRC, and United Engineers of numerous supports at FitzPatrick, and on the staff's audits of normal loads evaluations performed by the licensee and by Stone and Webster for all affected supports at FitzPatrick, there appears to be no basis on which to question the validity of the normal loads calculations performed for supports at FitzPatrick, or any indication of a generic overstress condition affecting the supports at FitzPatrick or the other plants mentioned by the petitioner.

IV.

Based upon the foregoing discussion, the petitioner's request is denied. A copy of this decision will be filed with the Secretary for the Commission's review in accordance with 10 CFR 2.206(c) of the Commission's regulations. As provided in 10 CFR 2.206(c), this decision will constitute the final action of the Commission 25 days after the date of issuance unless the Commission on its own motion institutes review of this decision within that time.



Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland
this 8th day of May, 1984