September 23, 1983

Docket No. 50-333

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Mr. J. P. Bayne
Executive Vice President,
Nuclear Generation
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

Dear Mr. Bayne:

Enclosed for your information is a copy of the petition filed on behalf of the Union of Concerned Scientists requesting that the Commission take immediate action to shut down the James A. FitzPatrick Nuclear Power Plant. The petition, filed and received on September 12, 1983, is being treated under 10 CFR 2.206 of the Commission's regulations, and accordingly, appropriate action will be taken on the petition within a reasonable time.

In order to assist the staff in its evaluation of the petition, we request, pursuant to 10 CFR 50.54(f), that you submit a response in writing under oath or affirmation that addresses each of the issues identified by the petition as related to the James A. FitzPatrick Nuclear Power Plant and provide the response to us by October 12, 1983. An extension of time for response may be granted for good cause.

Sincerely,
Original Signed by
H. R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosure:
Petition dtd 09/12/83

cc w/enclosure:
See next page

*Please see previous concurrence page.

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09/21/83	09/21/83	09/21/83	09/21/83	09/21/83	09/ /83	09/23/83

Docket No. 50-333

Mr. J. P. Bayne
Executive Vice President,
Nuclear Generation
Power Authority of the State
of New York
123 Main Street
White Plains, New York 10601

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Sincerely,

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosure:
Petition dtd 09/12/83

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09/21/83	09/21/83	09/21/83	09/21/83	09/21/83	09/ /83	09/ /83

subject to changes marked on draft.

Mr. J. P. Bayne
Power Authority of the State of New York
James A. FitzPatrick Nuclear Power Plant

cc:

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Regional Radiation Representative
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UNION OF CONCERNED SCIENTISTS 1346 Connecticut Avenue, N.W. • S. 1101 • Washington, DC 20036 • (202) 296-5600

September 12, 1983

Nunzio Palladino, Chairman
James Asselstine, Commissioner
Frederick Bernthal, Commissioner
Victor Gilinsky, Commissioner
Thomas Roberts, Commissioner
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

UCS has received information which indicates the presence of a grave safety hazard at the FitzPatrick nuclear power plant operated by the New York Power Authority. We believe that similar hazards may exist at other plants designed and built by the same architect-engineer involved in the FitzPatrick plant.

Included in the information we have obtained concerning the FitzPatrick plant is a letter from Mr. John Dainora, President of Target Technology, Ltd. to Mr. Leon Guaquil, New York Power Authority, dated June 30, 1983. A copy is enclosed.

In 1979, when FitzPatrick was one of five nuclear plants ordered to shut down because of Stone & Webster's miscalculation of the seismic stresses on piping, Target Technology was hired by the New York Power Authority to re-analyze the pipe supports. According to the enclosed letter, Target

Main Office: 26 Church Street • Cambridge, Massachusetts 02238 • (617) 547-5552

Technology informed the Power Authority at least 3 years ago (9/3/80) that the overall task of bringing the pipe supports into compliance with the Code requirements and the commitments made by the Power Authority in its Final Safety Analysis Report was incomplete. The Authority made no response. On December 20, 1982, Mr. Dainora again wrote to the Power Authority stating that there were 348 pipe supports for which Target Technology was the Engineer-of-Record and for which the stress calculations were incomplete. The June 30, 1983 letter is Target Technology's latest attempt to persuade the Power Authority to take action. Mr. Dainora states: "As a specialist in the piping area, I am convinced that unless you do something in the very near future, the plant will have a major Loss-of-Coolant Accident within the next three years." (p.4, emphasis in original)

As we interpret the letter, it raises the following concerns:

1. A large number of pipe supports in the FitzPatrick plant may not be able to withstand normal operating loads.

Mr. Dainaro stated that some of the supports "clearly exhibit physical signs of structural damage from normal operating loads and have safety implications for the plant." (p.2, emphasis in original) Thus, this problem is obviously not simply a hypothetical one. Furthermore, in many instances the Power Authority is apparently relying on the original design analysis of normal operating loads. This is inappropriate because the original calculations are unavailable, the "as-built" plant does not match the pipe configuration initially analysed, and supports have been added or deleted since. (See Item #5, p.3)

2. In 1979, when Target Technology discovered pipe supports which were not adequate for normal operating loads, it was directed by the Power Authority and Stone & Webster not to consider normal operating loads and to change the acceptance criteria.

Mr. Dainora stated: "We were told by the Authority and Stone & Webster in 1979 not to do that [consider the normal operating loads] because we found supports which were failing the allowable stress limits for the normal operating condition." (p.2) In May 1979, Target Technology proposed pipe support design criteria to be used in evaluating the FitzPatrick plant. Mr. Dainora stated: "Because some of the support designs did not pass the normal operating loads, we were instructed by the Authority and Stone & Webster to change the criteria." (p.3)

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3. A large number of pipe supports in the FitzPatrick plant may not meet the commitments regarding earthquake stresses made by the Authority in its Final Safety Analysis Report for obtaining the operating license.

Mr. Dainora noted that in the FSAR, the Authority had committed to design pipe supports in accordance with the requirements of ANSI B31.1.0-1967. However, the original Stone & Webster design was based on the American Institute of Steel Construction (AISC) Code. (See p.4) The significance of this is that supports found acceptable using the AISC Code could be stressed above the allowable limits for earthquake loading that would apply if the ANSI B31.1 Code were used. Mr. Dainaro noted that in 1979 the Power Authority had reported to the NRC that "[a]ll calculated stresses are checked against allowables specified in ANSI B31.1." However, Mr. Dainaro stated: "This

statement is consistent with the original SAR commitments.... but inconsistent with what was actually done." (p.4)[1/]

4. The Power Authority has known of the problems identified by Target Technology for at least 3 and very probably 4 years.

10 CFR 21.21 requires any licensee to "notify the Commission when he obtains information reasonably indicating a failure to comply or a defect affecting: (i) The construction or operation of a facility...." Initial notification of the defect or noncompliance is required within two days of receipt of the information.

The Dainora letter indicates that the New York Power Authority has been on written notice of this information since at least September of 1980. Moreover, the consultant, a specialist in the piping area, clearly considers the matter to be of great safety significance. He states that he expects a major LOCA within three years unless the matter is immediately addressed. (p.4) One can scarcely imagine language more serious than that used by the consultant: "Outside of appealing to your sense of professionalism, concern for public safety, and the potential for a huge economic loss, there is not much more than we can do." (p.3)

1/ UCS has also identified inconsistencies between the Authority's statements to the NRC and information provided by Target Technology. For example, in seeking to restart the FitzPatrick plant in 1979, the Authority reported to NRC that "[a]ny damage to or deterioration of pipe supports was noted, evaluated, and repaired or modified as necessary." (Letter from Paul Early to NRC, August 2, 1979, p.2) This is inconsistent with Mr. Dainaro's statements that supports which clearly exhibited structural damage from normal operating loads remained in the plant after restart in September 1979.

Nonetheless, no report under Part 21 has been made to NRC by the Power Authority.

UCS has located only one letter from the Power Authority to the NRC on this subject which is dated July 7, 1983. A copy is enclosed. That letter is so vague that it could be fai ly characterized as deliberately deceitful. Mr. J. Phillip Bayne states that the Power Authority has been informed of a potential noncompliance but gives no indication of when they were so informed. Indeed, Mr. Bayne gives the false impression that this is new information by stating that "[t]he Authority is taking immediate action to evaluate the potential nonconformance." It was also stated that "[t]he Power Authority will complete the evaluation of the potential nonconformance prior to startup from the current refueling outage, and inform the NRC of the results."

Although UCS is aware that the FitzPatrick plant has recently resumed operation, we have been unable to determine whether and, if so, how the Power Authority resolved the problems identified by Target Technology. It seems highly questionable that the problems could have been properly resolved in the short time available.

5. The potential exists that supports in other plants designed and constructed by Stone & Webster are overstressed under normal operating loads.

The problems which led to the 1979 shutdown of Beaver Valley Unit 1, Surry Units 1 and 2, Maine Yankee and FitzPatrick were first discovered at Beaver Valley. Subsequent investigation determined that Stone & Webster had used an incorrect computer code to calculate pipe stresses at all five plants. Inspection of the shutdown plants revealed significant differences between the original designs and the "as built" configurations of the piping systems.

Since pipe supports which may be overstressed for normal operating loads have been found at the FitzPatrick plant, and since Stone & 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.

Because of the obvious safety implications of this matter, UCS is bringing it to the Commissioners' attention for immediate action. The letter was released to us by the NRC on September 8, 1983 pursuant to a Freedom of Information Act request. On that day, FitzPatrick was in the process of ascending to full power after a refueling outage. We do not know how long the letter has been in the possession of the Staff. UCS telephoned Mr. Dainora on the afternoon of September 8 and confirmed the accuracy of the letter. In addition, Mr. Dainora told us that he has never been contacted by the NRC. It is therefore quite apparent that action at the Commission level is necessary.

Because 1) Mr. Dainora has informed us that many of the pipe supports are inside containment or otherwise inaccessible while the plant is operating, 2) physical damage has been observed and the problem has persisted for many years and 3) the Power Authority has failed to inform NRC of Mr. Dainora's concerns for more than three years, UCS urges you to immediately order the FitzPatrick plant to shut down to enable full NRC inspection of the questionable supports. The plant should not be allowed to resume operation until the NRC confirms that the FSAR committments and the requirements of I&E Bulletins 79-7 and 79-14 have been met.

The Commission should also expeditiously determine who on the NRC Staff has been in possession of Mr. Dainora's letter of June 30, 1983 and for how long, and why Mr. Dainora was never contacted by the NRC. While the New York

Power Authority claims to have hired a third party to "review and evaluate the potential nonconformance", we are informed by Mr. Dainora that he has not been contacted to determine whether his concerns have been resolved.

Finally, the information presented constitutes in UCS's view prima facie evidence of violation by the Power Authority of the reporting requirements of 10 CFR 21 and also raises a question as to whether the Authority may have made a material false statement in certifying to NRC that all calculated stresses were checked against the allowables specified in ANSI Code B31.1. The Commission should begin appropriate enforcement action.

UCS requests that we be kept informed of the action which you take in this matter.

Very truly yours,

Robert D. Pollard for

Ellyn R. Weiss
General Counsel

Robert D. Pollard

Robert D. Pollard
Nuclear Safety Engineer
Union of Concerned
Scientists

Enclosures

cc: Mr. J. Phillip Bayne
Executive Vice President
Nuclear Generation
New York Power Authority
123 Main Street
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Mr. John Dainora, President
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Paoli, Pennsylvania 19301

TARGET TECHNOLOGY LTD.
222 WEST LANCASTER AVENUE • PAOLI, PENNSYLVANIA 19301
(215) 296-7340

JOHN DAINORA
PRESIDENT

June 30, 1983

Mr. Leon Guaquil
Director, Project Engineering-BWR
New York Power Authority
123 Main Street
White Plains, New York 10601

Subject: James A. FitzPatrick Nuclear Power Plant
Design Non-Compliance with Final Safety
Analysis Report (FSAR)

Dear Leon:

My initial letter to the Authority (Reference 1) dated 9/3/80 was motivated by the fact that the activity for compliance with the requirements of I&E Bulletins 79-02, 79-07 and 79-14 to an Interim Criteria (normal/upset loads + seismic) was coming to a close and therefore it appeared timely to close-out the overall activity by bringing the pipe supports to compliance with FSAR commitments and Code requirements before disbanding the assembled project team. I also wanted to make sure that the Authority clearly understood, because of safety implications, that the task was incomplete and additional effort would be required to complete it.

After a couple of years of waiting for a response to my initial letter, I sent follow-up letter dated 12/20/82 (Reference 2) addressed to you. My concerns at the time of the second letter were based on the fact that we were the Engineers-of-record for 348 supports in the plant which had calculational packages that we consider to be incomplete from the standpoint of industry practice, as well as Code and NRC requirements. We wanted to be absolutely sure that in the event of a post-accident inquiry that at least the work that we had performed was complete and represented our best efforts.

At your request, we telecopied to you on 1/3/83 the following list of 20 supports which had an earthquake loading component less than 33 percent of the total load, and therefore have the potential of not meeting the Code allowable limits for the normal loading condition.

MSK 114U	H10-522	MSK 137G	H46-1A
MSK 116C	H11-2	MSK 127A	H29-141
MSK 114U	H10-214	MSK 127A	H29-23
MSK 116C	H11-1	MSK 127A	H29-349
MSK 117F	H14-55	MSK 127B	H29-21
MSK 114F	BZ-14C	MSK 127B	H29-348
MSK 114F	H10-40A	MSK 127C	H29-27
MSK 117A	H14-49	MSK 127C	H29-351
MSK 114J	H10-215	MSK 127D	H29-25
MSK 101A	H12-52	MSK 127D	H29-350

The Engineer-of-Record for the above supports is Stone & Webster. It was portant for us to establish the quality of the sample review which you undertook id the reasonableness of the conclusions you reached. Included in the above st were some supports which clearly exhibit physical signs of structural damage om normal operating loads and have safety implications for the plant. Our e-established position was that if you gave all of the above supports a clean ill of health then additional technical dialogue on this subject would probably ot produce any significant results.

Our meeting on 6/27/83 at Stone & Webster's offices to discuss my concerns ncluded senior management from the Authority and Stone & Webster. I am sure hat formal meeting minutes will be prepared and issued in the near future. owever, I would like to offer my comments and observations on some of the iscussion which took place:

Item #1. Stone & Webster indicated that for the supports for which they are the Engineer-of-Record that normal operating conditions have been evaluated and are satisfied.

Comment: The validity of this statement is the Authority's responsibility to assess and to act on the basis of their conclusions.

Item #2. Stone & Webster reviewed the sample list of 20 supports provided by TARGET and found all of them to be acceptable.

Comment: Given the fact that some of the supports show evidence of physical damage from normal operating loads, the statement appears to us to be incredible. On the other hand, we are aware that TARGET is only a small consulting company and we do not claim to have the depth of technical expertise to challenge an industry leader such as Stone & Webster.

Item #3. TARGET should have considered the normal operating loads at the time that they did the calculations.

Comment: We were told by the Authority and Stone & Webster in 1979 specifically not to do that because we found supports which were failing the allowable stress limits for the normal operating condition. Because at the time of this activity our contract was on a time and material basis, there was no reason for us to do less than required.

Item #4. No safety implications are implied because even for the case of zero earthquake loading the most that the code allowable limits would be exceeded would be 33 percent.

Comment: An appealing generalization on the surface--however, it does not account for the fact that some of the supports appear to be already overloaded.

Item #5. The supports were initially designed by Bergen-Patterson for normal operating loads and since the show cause order was directed to earthquake effects, the supports must be OK for normal loads.

Comment: An illogical conclusion that is not supported by fact when the following is considered:

(a) Because the majority of the Bergen-Patterson calculations are not available--what was actually done during plant construction is an unknown.

(b) The support loads changed dramatically for many supports because the as-built condition of the plant did not match the piping configurations which were initially analyzed.

(c) Supports were added or deleted to systems.

Item #6. TARGET has not evaluated the 348 support designs for which they are the Engineer-of-Record for normal operating loads.

Comment: Outside of appealing to your sense of professionalism, concern for public safety, and the potential for a huge economic loss, there is not much more than we can do. However, if the Authority elects not to review the 348 support designs for normal operating loads, they also must assume 100 percent of the responsibility and the legal consequences.

In our brief discussion on this subject after the conclusion of the formal portion of the meeting you requested background material and a cost estimate for doing the work.

Our proposal is presented as Attachment "A". The estimated cost for doing the work is $74,500. If you decide to request us to perform the assignment, we will accomplish the task with our usual professional pride and integrity.

The background material which may be useful to your decision making process is enclosed as follows:

Reference 3: Pipe Support Design Criteria - Dated 5/23/79.

Comment: The initial criteria proposed by TARGET. Because some of the support designs did not pass the normal operating loads, we were instructed by the Authority and Stone & Webster to change the criteria.

Reference 4: Notes of Telephone Conversation - 5/25/79.

Comment: TARGET was trying to establish what design criteria to be used. Also note G. Arena's (S&W) comment that except for components welded directly to the pipe, all other components were considered in the original design to be within the jurisdictional boundaries of the AISC Code.

Reference 5: TARGET's Checking and Modification Design Criteria for Pipe Supports - dated 5/26/79.

Comment: This criteria was reviewed and approved by the Authority. Note that any consideration of normal operating loads was deleted per the direction of Reference 4.

Reference 6: SAR Excerpt., page Q.4.1-1

Comment: Note commitment to design supports to ANSI B31.1.0-1967. This commitment is inconsistent with G. Arena's comment in Reference 4. The importance of G. Arena's comment was that he was the only available S&W spokesman who had actually worked on the original plant design.

Reference 7: PASNY report to the NRC transmitted via letter JPN-79-48 (Page 4-5)

Comment: Note the statement that "All calculated stresses are checked against allowables specified in ANSI B31.1." This statement is consistent with the original SAR commitments (see Reference 6) but inconsistent with what was actually done.

In closing, let me say that I understand your problem as a technical manager in sifting through the conflicting statements. On the one hand, you have a small consulting company telling you that the situation as it currently exists requires corrective action, while on the other hand a major A/E firm who built the plant initially is telling you not to worry about it--everything is alright.

In my situation the problem is slightly different. As a specialist in the piping area, I am convinced that unless you do something in the very near future, the plant will have a major Loss-of-Coolant Accident within the next three years. Waiting for an accident to happen to be proven technically correct seems like an absurd way of accumulating professional credits.

Leon, I have had my final say on this subject. The ball is back in your court. You do what you think is best for you, your employer, the nuclear industry and the general public.

Yours very truly,

TARGET TECHNOLOGY LTD.

John Dainora
President

JD:eh

Enclosures

cc: Mr. R. Burns (NYPA)
Mr. J. Leonard (NYPA)

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White Plains, New York 10601
914 681 6240

New York Power Authority

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J. Phillip Bayne
Executive Vice President
Nuclear Generation

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July 7, 1983
JPN-83-65

Director of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing

Subject: James A. FitzPatrick Nuclear Power Plant
Docket No. 50-333
Potential ~~Pipe Support~~ Design Nonconformance

Dear Sir:

The Power Authority has been informed by one of our technical consultants of a potential nonconformance in the reanalysis of 348 pipe supports installed in the FitzPatrick plant. The potential nonconformance involves only the design of the supports for normal loads. The design of the supports for seismic loads was completed in accordance with the applicable codes, standards and methodology approved by the NRC. Therefore, the seismic design of the pipe supports is not in question. The consultant has also identified approximately 20 additional supports which may be affected.

The Authority is taking immediate action to evaluate the potential nonconformance. A visual inspection of the twenty potentially affected pipe supports is in progress. The Authority will employ another consultant, not previously involved in pipe support analysis for the FitzPatrick plant, to review and evaluate the potential nonconformance. The Authority's preliminary determination, which is based on the information now available and therefore which is subject to change, is that evaluation of this potential nonconformance is unlikely to show a condition which is reportable under 10 CFR 21.

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1/0

The FitzPatrick plant is currently in the cold condition for a refueling outage. Most of the potentially affected pipe supports are not subject to the loads for which their design has been questioned. Therefore, the health and safety of the public are not affected.

The Power Authority will complete the evaluation of the potential nonconformance prior to startup from the current refueling outage, and inform the NRC of the results.

If you have any further questions, please contact Mr. J.A. Gray, Jr., of my staff.

Very truly yours,

J.P. Bayne
Executive Vice President
Nuclear Generation

cc: Mr. Harry B. Kister
United States Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, Pa., 19406

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