

4/2/79

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
VIRGINIA ELECTRIC AND POWER COMPANY) Docket Nos. 50-280
(Surry Power Station,) 50-281
Units 1 and 2))

LICENSEE'S ANSWER TO SHOW CAUSE ORDERS

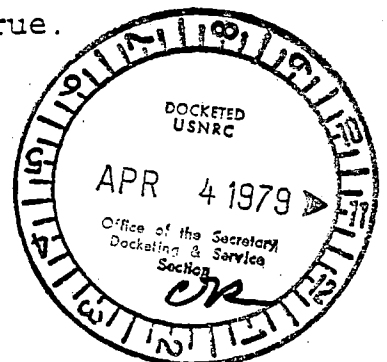
This is the Answer, pursuant to 10 CFR § 2.202, of Virginia Electric and Power Company (the Company) to the Nuclear Regulatory Commission's Orders to Show Cause, dated March 13, 1979, in these Docket Numbers (the Orders). It deals specifically with each allegation or charge made in the Orders, responds to the three points on which the Orders require the Company to show cause and sets forth the matters of fact and law on which the Company relies.

I.

Specific Allegations or Charges in the Orders

1. Paragraph I. -- The Company admits the allegations in Paragraph I of each Order.

2. Paragraph II, first sentence. -- The Company has been advised that the allegations in this sentence are true, but it has no independent knowledge of whether they are true.



3. Paragraph II, second sentence. -- The Company has been advised that the allegations in this sentence are true, but it has no independent knowledge of whether they are true.

4. Paragraph II, third sentence. -- The Company does not know whether the allegations in this sentence are true.

5. Paragraph II, fourth sentence. -- The Company admits that algebraic summations, absent complex time-history analyses, can, in some cases, give calculated stresses lower than those given by other techniques.

6. Paragraph II, fifth and sixth sentences. -- The Company admits that under current industry practice the effects of earthquakes are accounted for by combining loads absolutely or using techniques such as the square root of the sum of the squares.

7. Paragraph II, seventh and eighth sentences. -- The Company admits that the earthquake loads predicted for piping systems by the algebraic summation technique may differ significantly from those predicted by other techniques where the horizontal seismic components can have both horizontal and vertical components and the vertical seismic component also has both horizontal and vertical components that act on the piping.

8. Paragraph II, ninth sentence. -- The Company has begun a reanalysis of certain pipes and piping supports with a code that does not combine loads by algebraic summation

(see Section III below).

9. Paragraph II, sentence 10. -- The Company has been advised by its architect-engineer that the allegations in this sentence are true, but it has no independent knowledge of whether they are true.

10. Paragraph II, sentence 11. -- The Company has been advised that its architect-engineer informed the Nuclear Regulatory Commission Staff (Staff) that the same revision of the same computer code was used for both Beaver Valley and Surry, but the Company has no independent knowledge of whether this is true.

11. Paragraph II, sentence 12. -- The Company admits the allegation in sentence 12 except to the extent that the matters referred to in sentence 12 are characterized as "facts."

12. Paragraph II, sentence 13. -- The Company has been advised by its architect-engineer that the allegations in this sentence are true to the extent that the meeting took place at the time and place indicated, but it has no independent knowledge of whether these allegations or any other allegations in this sentence are true.

13. Paragraph II, sentence 14. -- The Company does not know whether the allegation in this sentence is true.

14. Paragraph II, sentences 15 and 16. -- The Company admits that the allegations in these sentences represented the views of the Staff on March 13, 1979.

Except for the admissions set out above, the Company denies all of the allegations or charges in the Orders.

II.

Paragraph III of the Show Cause Orders

The Orders require the Company to show three things. Each is set out here, followed by the Company's answer.

1. Why the Licensee should not reanalyze the facility piping systems for seismic loads on all potentially affected safety systems using an appropriate piping analysis computer code which does not combine loads algebraically. The Company has established two categories of piping systems, designated Priority I and Priority II, for reanalysis. The systems contained in each Priority grouping are identified in Attachment A. The Company will reanalyze the Priority I and Priority II systems using an appropriate piping analysis computer code that does not combine loads algebraically.

2. Why the Licensee should not make any modifications to the facility piping systems indicated by such reanalysis to be necessary. Whether modifications are ultimately needed will be decided when the reanalysis has been completed.

3. Why facility operation should not be suspended pending such reanalysis and completion of any required modifications.

The immediate effectiveness of the Orders should be lifted and operation of the facilities allowed to resume.

The central finding of the Staff on which the immediate effectiveness of the Orders is based is the conclusion that

"until full reanalysis of all potentially affected piping systems important to safety has been completed with a piping analysis computer code which does not contain the algebraic summation error, the potential for serious adverse effects at the Surry facility exists in the event of an earthquake and could be sufficiently widespread that the basic defense in depth provided by redundant safety systems may be compromised."

While the Company disagrees with the Staff's decision to make the Orders suspending operation effective immediately, the Company is carrying out the reanalysis that the Orders indicate are necessary. The Company believes that when its reanalyses of the piping systems described under Priority I in Attachment A have been completed, they will show that there is not a widespread potential for serious adverse effects at Surry in the event of an earthquake such that the basic defense in depth provided by redundant safety systems may be compromised. Indeed, this may well be clear before the reanalysis of all the Priority I systems is completed. So that the suspension can

be lifted promptly, supplemental information will be made available for staff review as it is produced, and the Company reserves the right to answer further.

III.

Matters of Fact or Law Upon Which the Company Relies

A. Matters of Fact

1. The Piping And Pipe Support Reanalysis.

The Company has begun reanalyzing the piping systems identified as Priority I and is proceeding as quickly as possible to complete that work. This reanalysis uses the NUPIPE computer program for piping stress analysis. The NUPIPE program is currently in use for piping system design for many nuclear power plants, and the Company believes its use constitutes "current industry practice." Each Priority I piping system will first be analyzed using the amplified response spectrum used when the piping stress analyses for Surry Units 1 and 2 were first performed. If this first analysis indicates that part of any piping system or its supports would be overstressed, that system will then be analyzed using a new amplified response spectrum (based on the one successfully used for Surry Units 3 and 4) that incorporates the principles of soil-structure interaction. After the Company has finished reanalyzing the Priority I piping systems, which are necessary for the safe

shutdown of the plant in the event of an earthquake, it will analyze the Priority II systems.

2. The Necessity For Suspension .

The public health and safety do not require that the present suspension be continued until all piping systems have been reanalyzed. The Staff based the Orders on its concern that serious effects sufficiently widespread to compromise the facilities' defense-in-depth might result from an earthquake. The Priority I systems are systems required to shut down the Units safely in the event of a design basis earthquake that either (a) were analyzed originally with PIPESTRESS with the Shock 2 subroutine or (b) have 6" Velan check valves in them. Thus, successful completion of the Priority I analyses will certainly indicate that defense-in-depth against earthquakes has not been compromised, and it may be that something short of completion of the Priority I analyses will be adequate to dispel the Staff's concern about "widespread serious adverse effects" stemming from an earthquake.

3. The Economic Consequences Of Continued Suspension Will Be Severe.

When the Orders were issued and operations at Surry Unit 1 suspended (Surry Unit 2 was down for steam generator and other repairs), the Company began work on inspections and maintenance that would have required an outage sometime in the future. If the suspension called for in the Orders has not been lifted for Surry Unit 1 by the time this work has been

completed then the Order will be solely responsible for the continued outage at that Unit and for the replacement fuel costs the Company will incur as a result. Net replacement fuel costs in the absence of Surry Unit 1 are estimated to be \$11-\$12 million per month, based on March 1978 costs of oil and the average operation of the Surry units over the past two years.

B. Matters of Law

The Orders give the Company an opportunity to show why facility operations should not be suspended pending completion of items 1. and 2. of the Order. The Orders further contemplate that the suspension would be immediately effective, to continue until "further order of the Commission." The Company submits that under the Orders and applicable NRC regulations and case law: (1) the Director of Nuclear Reactor Regulation is authorized to lift the immediate effectiveness of the Orders, and (2) the summary suspension must not extend beyond the time when an emergency condition no longer exists.

1. The NRC Staff Has The Authority Unilaterally To Lift The Suspension Orders.

The Commission has addressed the issue of whether the Director of Nuclear Reactor Regulation has the authority unilaterally to modify a suspension order issued pursuant to

10 CFR § 2.202(f) prior to a hearing, if any, in a related show cause proceeding. In Consumers Power Company (Midland Plant, Units 1 and 2) CLI-73-38, 6 AEC 1082 (1973), the Commission specifically endorsed such action on the part of the NRC Staff.

In Midland the construction permit had been summarily suspended and an Order to Show Cause issued by the Director of Regulation following an inspection that indicated that deficiencies existed in the cadwelding of the reinforcing rods used in the concrete structures at the reactor site. When subsequent inspections revealed that the problem had been corrected, the Director of Regulation modified the Order to Show Cause to allow resumption of cadwelding.

Certain would-be intervenors petitioned the Commission, contending that the Director of Regulation did not have the authority to modify the order prior to hearings. In specifically rejecting this contention, the Commission found that

"In view of the potentially serious consequences of summary suspension orders contemplating a later hearing, the Director of Regulation has discretion to modify such orders on the basis of subsequent developments warranting such action, prior to the hearing." 6 AEC at 1083 (emphasis added). 1/

1/ The Commission also found that there was "no merit" in petitioners' other contention that they had somehow acquired vested rights in the preservation of the status quo pending hearings and a decision on the merits regarding the issues raised in the show cause order as a result of the initial suspension order. 6 AEC at 1083.

In reaching this conclusion, the Commission emphasized that "the rule pursuant to which the suspension order was issued (10 CFR 2.202(f)) contemplates possible modification prior to hearing." 6 AEC at 1083. Section 2.202(f) of the Commission's Rules of Practice explicitly states that in situations where the public health, safety, or interest so requires, "the proposed action [will] be temporarily effective pending further order." 10 CFR § 2.202(f). And as in Midland the Orders suspending operation of the facility are, by their very terms, effective "[p]ending further Order of the Commission." Thus, the Commission's own regulations and case law precedents, as well as the Show Cause Orders themselves, contemplate further modification of the Orders by the Staff.

2. The Summary Suspension Must Not Extend Beyond The Time When An Emergency Condition No Longer Exists.

In the instant Orders the Director of Nuclear Reactor Regulation relied on his emergency authority to make the Show Cause Orders immediately effective and summarily suspend facility operation. The factual predicate for that emergency action consisted of a "potential for serious adverse effects in the event of an earthquake that was sufficiently widespread that the basic defense in depth provided by redundant safety systems may be compromised." Regardless of whether the information available to the Director at the time of the Orders may have supported this particular factual predicate, the Company

submits that a more stringent, two-pronged test must be applied to warrant continuation of the suspension.

Emergency action is a drastic procedure that can summarily affect the rights of licensees, and thus the available information must demonstrate both: a) the need for emergency action and b) the insufficiency of less drastic measures.^{2/}

The available information must also show that the continued activities of NRC licensees constitute an unreasonable risk to the public health and safety, and that compelling safety considerations warrant suspension.^{3/} In contrast, the Commission is not required to and should not take emergency action whenever the information is merely suggestive of adverse impacts on the integrity of existing nuclear power safety systems.^{4/}

Thus, once an order is in effect it should be modified as soon as the perceived emergency has passed. Since "the justification for summary action ends with the emergency that called it forth" (ICC v. Oregon Pac. Indus., Inc., 420 U.S. 184, 193 (1975) (Powell, J., concurring)), the summary action must itself end once the emergency passes. If an emergency ever existed with respect to the operation of the facilities, surely it will come to an end no later than the time

^{2/} Nuclear Regulatory Commission (Licensees Authorized to Possess or Transport Strategic Quantities of Special Nuclear Materials), CLI-77-3, 5 NRC 16, 20-21 (1977) (SNM Safeguards).

^{3/} Consumers Power Co. (Midland Plant, Units 1 & 2), CLI-73-38, 6 AEC 1082, 1083 (1973).

^{4/} SNM Safeguards, 5 NRC at 21.

when the Priority I reanalyses have been successfully completed and perhaps before that time if fewer than all the Priority I reanalyses demonstrate the absence of "widespread potential" for serious adverse effects.

Indeed, refusal to lift the suspension at that juncture could even constitute an abuse of discretion.^{5/} In Fahey v. Mallonee, 332 U.S. 245 (1947), the Supreme Court found that summary action under certain banking statutes was not unconstitutional, but the Court also cautioned that "[i]t is a heavy responsibility to be exercised with disinterestedness and restraint. . . ." 332 U.S. at 253-54. The Commission emphasized this point by citing Fahey in the Midland decision and concluding:

"[I]t has always been recognized that summary administrative action substantially curtailing existing rights . . . is a 'drastic procedure.'" 6 AEC at 1083.

Thus, when it is shown that the perceived emergency that prompted the Staff's action here has passed and that a danger to the public health and safety no longer exists, the summary

^{5/} Several commentators have noted the exceptional nature of summary administrative action and the dangers inherent in summary action followed by administrative inaction. See e.g., Freedman, Summary Action by Administrative Agencies, 40 U. Chi. L. Rev. 1, 52 (1972) (justification for summary action lies in the necessity for the government to act immediately to enforce public policy; having taken summary action, the agency has an obligation to confine the adverse impact of its summary order to the shortest possible period).

action must be lifted lest these "existing rights" be unnecessarily curtailed. The unfairness caused by prolonged delay may ultimately assume constitutional dimensions for, as one noted jurist has observed, the due process guarantee of a prior administrative hearing "may be validly limited [by summary action] . . . only for the briefest of periods." United States v. Harper 335 F. Supp. 904, 906-07 (D. Mass. 1971) (Wyzanski, J.), vacated as moot, 406 U.S. 940 (1972).

In the Midland case, it was noted that delaying construction of a needed generating plant was contrary to the public interest. "Such action, unless warranted by compelling safety considerations, can have serious consequences." 6 AEC at 1083 (emphasis added). These considerations, coupled with the correction of the deficiencies in cadwelding that led to the original suspension, prompted the Staff to lift the suspension of cadwelding operations in the Midland Show Cause proceeding.

In like manner here, the facilities produce electricity vital to consumers and industry, and, as we have shown, continued suspension will impose substantial increased costs to all concerned. Any regulatory action or inaction that unnecessarily limits operation of the facilities, once a perceived emergency supporting immediate effectiveness of the Orders has passed, would clearly be contrary to the public interest.

In summary, an analysis of the Commission's own regulations and case law precedents, as well as consideration of sound regulatory policy and administrative practice, shows that the Director of Nuclear Reactor Regulation has the authority unilaterally to lift suspension orders in show cause proceedings once the problem that triggered the suspension has been resolved.

IV.

Conclusion.

For the foregoing reasons the Company submits that the suspension of facility operations should be lifted in accordance with paragraph II(3) above.

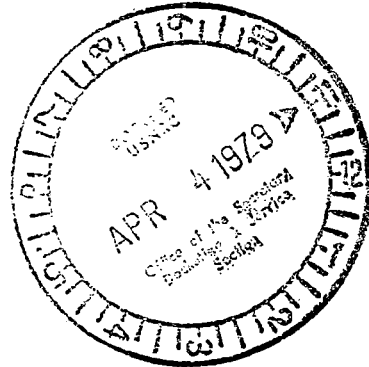
Dated: April 2, 1979

Piping Systems to be Reanalyzed

Priority No. 1 - Systems required for safe shutdown in the event of a design basis earthquake that (a) were analyzed originally using Shock 2 or (b) include 6" Velan check valves.

Portions of the following systems:

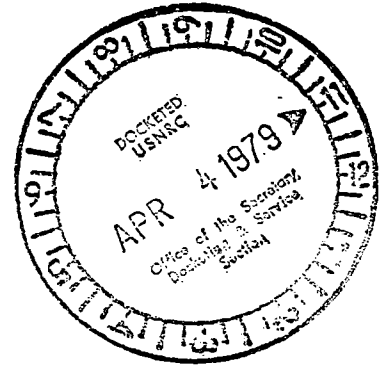
- Low head safety injection
- High head safety injection
- Main steam
- Residual Heat Removal
- Feedwater
- Auxiliary feedwater
- Service water
- Containment spray
- Recirculation spray
- Containment vacuum



Priority No. 2 - Systems that were analyzed with Shock 2 but are not required for safe shutdown.

- Component cooling water
- Fire protection

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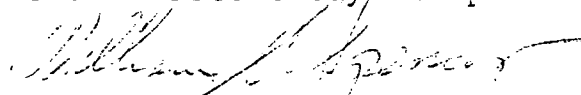


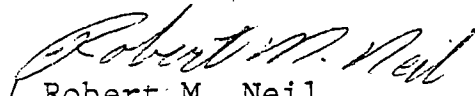
AFFIDAVIT

William C. Spencer, being duly sworn, deposes and says as follows:

1. His business mailing address is P. O. Box 26666 Richmond, Virginia 23261.
2. He is employed by Virginia Electric and Power Company (the Company) in the capacity of Vice President Power Station Engineering and Construction Services.
3. In that capacity he is duly authorized to execute the foregoing Answer on behalf of the Company.
4. The statements made in the foregoing Answer are true and correct to the best of his knowledge and belief.

Sworn to and subscribed this second day of April 1979.


/s/ William C. Spencer


/s/ Robert M. Neil
Notary Public

My Commission Expires:

1/20/81

SERVICE IN THIS PROCEEDING

Service in this proceeding may be made on

Michael W. Maupin
Hunton & Williams
P. O. Box 1535
Richmond, Virginia 23212

Dated: April 2, 1979

By /s/ Michael W. Maupin
Michael W. Maupin
Counsel for Virginia Electric
and Power Company

CERTIFICATE OF SERVICE

I certify that I have today served copies of the foregoing Licensee's Answer to Show Cause Orders on the persons named below by depositing them in the United States Mail, properly stamped and addressed:

Secretary, U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attn: Chief, Docketing and Service Section

Joseph Scinto, Esquire
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dated: April 2, 1979

By /s/ Michael W. Maupin
Michael W. Maupin
Counsel for Virginia Electric
and Power Company

