

March 11, 1977

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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

VEPCO'S VIEWS ON THE RELEVANCY
OF THE DOCUMENTS DESIGNATED
BY INTERVENOR ARNOLD

By letter of December 8, 1976, Mrs. Arnold's attorney served on the ASLB and the parties to this proceeding a list of some 71 documents related to incidents at Vepco's Surry Power Station, Units 1 and 2. Most of the documents were abnormal occurrence (or reportable event) reports filed by Vepco and inspection reports by the NRC Directorate of Regulatory Operations, Region II. By letter of February 11, 1977, counsel for the NRC Staff stated the Staff's objections to the admissibility of some of the documents. According to the understanding reached at the evidentiary hearing in Charlottesville in December (Tr. 2729-34, 2982), the Licensing Board is to examine each of the documents and rule on whether it is relevant to the stipulated Issue 5 in this proceeding.

Issue 5 is the following:

14
Hearing packet

In light of Vepco's operating experience at Surry, is there reasonable assurance that releases of radioactive materials in effluents from North Anna Units 1 and 2 to unrestricted areas will be in compliance with applicable AEC regulations?

Vepco's opinion of the relevance of each of those documents referenced by Mrs. Arnold's attorney is set out below. For ease of identification, we have numbered them 1 through 71, in the same order in which they were submitted by Mrs. Arnold's attorney. We have briefly described the incidents involved, stated our objections to the admission of certain of the documents, and noted where the NRC Staff agrees that a document is inadmissible.

The test of relevancy is whether the proffered evidence tends to make the desired conclusion more (or less) probable than without the evidence. See 1 Wigmore on Evidence §32 (3d Ed. 1940). In the present case this test becomes whether each of the documents, by itself or in combination with others, tends to make more or less probable the proposition that there is reasonable assurance that radioactive effluents from North Anna 1 and 2 to unrestricted areas will comply with applicable NRC regulations.

Not all relevant evidence is admissible, however. State v. Lee, 83 NE 2d 778, 780 (Ind. 1949). The NRC

regulations, 10 CFR § 2.743(c), add that the evidence must be "material," "reliable," and "not unduly repetitious"; Rule 403 of the Federal Rules of Evidence permits the exclusion of relevant evidence if its probative value is substantially outweighed by, among other things, "considerations of undue delay, waste of time, or needless presentation of cumulative evidence."

In drawing the line between relevant and irrelevant evidence in this case, the NRC staff would apparently accept as relevant any event that has to do with health physics, including radiation monitoring. They find irrelevant those incidents that "could not directly result in an off-site release," although it seems that some of the monitoring failures that the Staff finds relevant also could not "directly result" in an offsite release.

In any event, Vepco draws a line similar to the Staff's, with one qualification: we would accept as "relevant" (though just barely so) any event involving an unplanned or abnormal release of radioactive effluents to unrestricted areas, and also failures to monitor or take samples or measurements that could have contributed to the consequences of such a release. We differ from the Staff mainly in that we believe matters of radiation control within the station, such as the posting of contaminated areas, are fundamentally different from matters of control of offsite releases, and we therefore find them irrelevant. Item 12 below (Accession No. 90613),

for example, describes an incident in which a workman compressed a bag of contaminated waste and blew radioactive contamination in his face. We believe it is nonsense to say that this isolated incident at Surry has anything to do with controlling offsite releases at North Anna.

Even when we say, on the other hand, that a certain incident is "relevant," we mean only that it probably satisfies the minimum level of logical relevancy that permits it to be considered by a judge or licensing board acting without a jury. We do not mean to imply, by saying that an incident is relevant, that it is entitled to much weight. Indeed, since the ultimate question is whether effluents from North Anna 1 and 2 will likely comply with NRC regulations, there is essentially no probative value to effluent releases at Surry that did comply with the regulations (except, possibly, as evidence that Surry does comply with effluent requirements and that therefore North Anna will also). And the documents listed by Mrs. Arnold contain no evidence that the releases from Surry to unrestricted areas have ever violated the limits in 10 CFR Part 20.

Here, then, are Vepco's objections to the documents listed by Mrs. Arnold. Vepco wishes to reserve its right to present further evidence on any of those documents that this Board may decide to officially notice and use as support for a decision that might adversely affect Vepco. That right

is provided by 10 CFR § 2.743(i), which says that:

Each fact officially noticed under this subparagraph shall be specified in the record with sufficient particularity to advise the parties of the matters which have been noticed or brought to the attention of the parties before final decision and each party adversely affected by the decision shall be given opportunity to controvert the fact.

(Emphasis added.)

VEPCO'S RESPONSES TO
THE INDIVIDUAL DOCUMENTS

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 1. 7/21/72 | 73420 | R.O. Report No. 50-280/ 72-11. | |

Vepco's Response:

This inspection report describes an incident on July 27, 1972, when two Vepco employees were fatally burned as a result of a nonradioactive secondary steam release. At page 2 the report says that "[t]he safety of the reactor was at no time in jeopardy as a result of the accident, nor did the accident result in the exposure of personnel or the release of radioactive materials." Although it appears that the Board has already ruled that this incident is relevant, based on the fact that the steam release could have contained radioactivity if there had been steam generator tube leaks at the time (Tr. 2701-02), Vepco nevertheless believes the incident is irrelevant. Moreover,

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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because it involves the same incident as Item 2 below, this document is unduly repetitious.

2. J. G. Keppler, NRC,
Memo dated Oct. 20,
1972, re: Meet-
ing with Vepco
Management on Oct.
5, 1972. (Inter-
venor Arnold
Exhibit 1).

Vepco's Response:

This document is already in evidence as Intervenor's Exhibit I-1 (Tr. 2709-09). It refers to the same incident described in Number 1 above (Accession No. 73420) and, for the same reason as Number 1, is entitled to no weight whatsoever.

3. *11/30/72¹ 77880 AO-S1-72-05.

Vepco's Response:

This document reports a hole in the reactor coolant system pressure boundary that released some 30,000 gallons of coolant to the containment. The leaked coolant was very low in radioactivity (3×10^{-5} $\mu\text{Ci/cc}$). There was no direct release to the environment, because the 30,000 gallons was processed through the liquid waste disposal system and then released in accordance with normal operating procedures and Technical Specifications.

¹* indicates item involving onsite or offsite release of radioactive material.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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Because this incident ultimately involved a release offsite, it is, strictly speaking, relevant to Issue 5. Since it is a case in which radioactive releases were kept within levels required by NRC regulations despite the abnormal occurrence, its only value as evidence is to show that there is reasonable assurance that effluents from North Anna will comply with applicable regulations.

4. *3/2/73 79052 A0-S2-73-01.

Vepco's Response:

This document reports an unintentional release of low-level radioactivity into the Unit 2 containment atmosphere that occurred when maintenance personnel opened two trip valves from the Unit 2 Primary Vent Header. About 7.37 μ Ci of I-131 activity was released to the containment and then to the atmosphere; this release was below the 4 percent reporting requirement in the then-existing Technical Specifications, which was 197.6 μ Ci.

This incident is relevant to Issue 5 but entitled to almost no weight.

5. 5/23/73 82125 5/15/73, 18-page letter with attachments, from F. E. Kruesi, Dir. of Regulatory Operations, to Vepco. (Intervenor Arnold Exhibit 2).

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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Veeco's Response:

This document is already in evidence as Intervenor's Exhibit I-2, subject to Board action on any motion to strike (Tr. 2879-80). It is a letter from the AEC Director of Regulatory Operations with attachments, dated May 15, 1973, proposing civil penalties for certain items of noncompliance with AEC requirements. This document should be stricken as irrelevant.

6. 5/23/73 82125 Not available.

Veeco's Response.

This item consists of a letter from Norman C. Moseley, Director, Region II of the NRC's Office of Inspection and Enforcement, to Veeco, dated May 23, 1973, and attached RO Inspection Report Nos. 50-280/73-1 and 50-281/73-2. The documents address the failure of Veeco to review, independently verify, and document pressurizer piping system repairs and modifications.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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The Staff says these failures "were in no way related to offsite releases of radioactivity" and finds them irrelevant. Vepco agrees.

7. 6/8/73 81260 Not available.

Vepco's Response:

This letter from Vepco to the NRC reports that check valve 2-FW-12 (which is in "A" feedwater line external to the containment of Unit 2) was found leaking. The leakage rate was not measured, but it was slight -- only sufficient to wet the floor in the immediate area. This minor leakage of feedwater had no safety implications whatsoever.

The Staff believes this incident is irrelevant to Issue 5. Because no radioactive effluent was involved, and because other valves could have provided containment isolation if required, Vepco agrees with the Staff.

8. 6/22/73 82417 Inspection Report 73-03,
73-05.

Vepco's Response:

Inspection Reports 50-280/73-03 and 50-281/73-05 total 42 pages in length, and it is not clear which of the many matters discussed Mrs. Arnold believes to be relevant. While there may be one or two paragraphs in the document that are "relevant" under the very liberal standard of relevancy we have been applying here, it appears to us that the document as a whole is so far-ranging and so lacking in probative value with respect to Issue 5 that it is irrelevant.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 9. #8/1/73 ² | 83016 | USRE-S1-73-03. | |

Veeco's Response:

This report says that the liquid waste monitor and the steam generator blowdown monitor did not meet the sensitivity parameters stated in the FSAR, and that the Unit 2 circulating water discharge tunnel monitor was inoperable for short periods of time. The liquid waste monitor was affected by the build-up of internal contamination; the steam generator blowdown monitor was affected by the americium-beryllium source in a nearby boron analyzer; and the circulating water discharge tunnel monitor was apparently put out of order by water inleakage due to discharge canal turbulence. However, the liquid waste monitor sensitivity was still within the 10 CFR Part 20 limits, and the effluent is sampled and monitored during discharge; the sensitivity of the steam generator blowdown monitor was still adequate to detect a steam generator tube leak; and the inoperability of the Unit 2 circulating water discharge tunnel monitor was not a serious problem in practice, because no liquid waste is released through the Unit 2 discharge tunnel.

²#indicates item which, in the opinion of Intervenor Arnold, may have affected the ability to control and/or monitor radioactive releases.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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This document would be marginally relevant to Issue 5, except that North Anna differs in design from Surry in certain pertinent respects: at North Anna 1 and 2 there is no boron analyzer near the blowdown monitors, the liquid rad-waste monitors have piping that can be replaced when contaminated, and the circulating water discharge tunnel monitor is located so that it will be above the water level (see Affidavit of William H. House, II, attached). Accordingly, this document is irrelevant to Issue 5.

10. *11/23/73 87230 AO-S1-73-14.

Vepco's Response:

This report describes an incident that resulted in the release of an estimated 13 cubic feet of radioactive gas to the process vent and then to the atmosphere. The total activity was approximately 0.08 curies, well below the allowable controlled release rate in Technical Specification 3.11.b.1. It was, in fact, at least two orders of magnitude less than what is permitted for normal controlled releases. The amount of radioactivity released to the environment was "insignificant."

This incident is relevant to Issue 5 but entitled to almost no weight.

11. #2/24/74 100264 AO Report 75-02.

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Veeco's Response:

A0-S1-75-02 describes an incident in which two containment isolation valves (2-IA-446 and 2-IA-447) were inadvertently left open, with the result that the containment integrity was breached while the reactor was above cold shutdown condition. There were no safety implications, because there were no accident conditions requiring containment isolation. Since the containment is kept at lower pressure than the surrounding atmosphere during normal operation, any leakage would have been into the containment.

The NRC Staff finds this incident irrelevant to Issue 5. Because there was no abnormal release of radioactivity to unrestricted areas, Veeco agrees.

12. *3/28/74 90613 Not available.

Veeco's Response:

This letter from Veeco to the NRC describes an incident in which an employee at the station compressed a bag of contaminated waste and unknowingly blew radioactive contamination in his face. It is calculated that he inhaled Co⁶⁰ at a concentration marginally higher than the applicable MPC (maximum permissible concentration) for this nuclide.

This incident is irrelevant to Issue 5.

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| 13. 3/29/74 | 89749 | AO-S2-73-12. | |

Veeco's Response:

This report describes how an emergency exit hatch in the inner access door of the personnel airlock came open while the outer door was open. An operator had entered the airlock and left the outer door open when the emergency exit hatch failed and was torn from its hinge. The air rushing through the airlock into the containment forced the operator through the open hatch and threw him approximately 20 feet. He suffered some injuries and was slightly contaminated. Apparently no gaseous or particulate activity was released from the containment.

Both because this incident did not involve radioactive releases to unrestricted areas, and because the design of the emergency exit hatch is different at North Anna (see Affidavit of William H. House, II, attached), this incident is irrelevant to Issue 5. The NRC Staff also finds it irrelevant.

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| 14. 4/15/74 | 89736 | Not available. | |
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Veeco's Response:

This document is an April 5 (not April 15), 1974 letter and attached Special Report SR-S1-74-01 describing a fire at a residual heat removal pump. Because of the design of the pump motors, care must be taken to avoid

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| | | | overgreasing them; at the time of the fire they had not been lubricated for the past year, and apparently the bearing had overheated and caused the fire. The Staff says this is irrelevant to Issue 5. Because no abnormal release of radioactive effluent was involved, and because the report says that the incident "did not affect the safe operation of the station," Veeco agrees with the Staff. Veeco also believes the incident irrelevant because the design of the residual heat removal pumps is different at North Anna. SR-S1-74-01 says that the "difficulties experienced in the lubrication of this motor can be attributed to the single grease port used for both injection and relief." This problem is eliminated at North Anna 1 and 2, where the motors are lubricated by a different method (<u>see</u> Affidavit of William H. House, II, attached). |
| 15. #Aug. '74 OUSR ³ p. 2-80 | Not available | R.O. Report No. 50-280/74-8. | Surry 1. Enforcement Status: 1. Failure to follow radiation control procedures. 2. Failure to test ventilation filter banks. 4. Failure to submit a written report within 30 days of personnel exposure to airborne concentrations in excess of applicable limits. |

³OUSR = Operating Unit Status Report.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 15. (cont'd) | | | 5. Failure to maintain records of radiation surveys made in connection with airborne radioactivity release in containment. |

Vepco's Response:

This inspection report describes the "apparent violations" listed by Intervenor Arnold as follows: The "failure to follow radiation control procedures" refers to three Surry Station personnel who exited past radiation monitors without monitoring themselves for radioactive contamination and also to a failure to leak-test a 2.72 curie plutonium-beryllium neutron source at a six-month interval.

The "failure to test ventilation filter banks" refers to the inspectors' finding that the filter banks in the auxiliary building, control room, and relay rooms had not been tested for leakage efficiency for just over two years, contrary to a technical specification requirement that they be tested at least once every 12-18 month period, normally during refueling shutdown. This was caused by a misinterpretation of the requirements: Surry management had interpreted the technical specifications to mean that the filter banks needed to be tested only during refueling shutdown, and there had been no refueling shutdown since the last test.

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The "failure to maintain records" refers to an incident in which decontamination tanks inside the Unit 1 containment, heated to the boiling point because of malfunctioning heaters, caused a local air monitor to alarm. Veeco representatives assured the AEC inspectors that adequate air samples had been taken to determine that no overexposure to personnel had occurred, but records were not kept of the air sample results or the evaluation of personnel exposures.

Of these incidents, only the failure to test filter banks is relevant to Issue 5. The others involve nothing but questions of radiation control within the station itself. The failure to test the filter banks at the proper interval is entitled to almost no weight, because there is no indication it contributed to an abnormal off-site release or caused effluents to violate any AEC regulations.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 16. 6/27/74 | 94196 | Not available. | |

Veeco's Response:

Abnormal Occurrence Report AO-S1-74-06, with cover letter of June 27, 1974, says that during the monthly test of the power station's diesel-driven emergency service water pumps on May 7, 1974, emergency service water pump SW-P-1A diesel tripped on high cooling water temperature after 20 minutes of operation. The operator attempted to start emergency service water pump SW-P-1B diesel, but it failed to start. The failure of SW-P-1A was caused by its clutch being disengaged, contrary to station administrative procedures. The failure of SW-P-1B was caused by a defective cell in one of the diesel starting batteries. The incident did not affect the safe operation of the station.

Because this incident occurred during a test, and because there was no abnormal radioactive release to unrestricted areas, Veeco believes the incident is irrelevant to Issue 5. The incident is also irrelevant because there are no diesel service water pumps at North Anna (see Affidavit of William H. House, II, attached). The Staff also believes it to be irrelevant.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 17. *8/2/74 | 95043 | A0-S1-74-10. | |

Vepco's Response:

This report describes an incident that occurred August 2, 1974: Water was being transferred from the spent fuel pit directly to the boron recovery system with a temporary hose line arrangement. During the transfer one end of the temporary hose line connection separated from its fitting, spraying the primary grade pump house interior with low-level radioactive water. Most of the spilled water was retained and collected within the pump house. A maximum of 150 gallons was discharged through windows and under a door to the storm sewers in the surrounding area. All concentration levels were within 10 CFR Part 20 limits, and it is estimated that the total activity released was only 0.0332 curies.

This document is already in evidence as Applicant's Exhibit V-8 (Tr. 2884-85). It is relevant to Issue 5 but entitled to very little weight, because 10 CFR Part 20 limits were not exceeded.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 18. *8/2/74 | 95551 | A0-S1-74-11. | |

Veeco's Response:

This document is an abnormal occurrence report dated August 29, 1974, with cover letter of September 26, 1974. (Intervenor's date 8/2/74 is apparently an error.) According to the report, on August 20, 1974, a number of simultaneous occurrences prevented the control room operator from adequately monitoring the overhead gas compressor discharge pressure. The pressure in the surge tank increased, resulting in the lifting of relief valve RV-BR-120 and the release of the gases in the surge tank to the process vent system. This activated the process vent gaseous monitor alert, and the operator then took immediate steps to end the release. About 25 cubic feet of gas was discharged to the process vent system and then to the atmosphere. The total activity was calculated at about 5.91 curies, and the rate of release was only about 19.0% of that permitted by the Technical Specifications for normal controlled releases. This incident is relevant to Issue 5 but entitled to almost no weight.

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| 19. 10/1/74 | 96071 | A0-S2-74-08. | |
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Veeco's Response:

This report, with cover letter of October 1, 1974, says that in September 1974 solenoid-operated valves were unknowingly left electrically disconnected and thus inoperable. As a

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result, neither fuel oil supply flow path for Emergency Diesel Generator No. 2 was operable. However, Emergency Diesel Generator No. 3 could have supplied safety-related equipment in the event of an accident.

The Staff finds this incident irrelevant to Issue 5. Because it involved no release to unrestricted areas, Vepco agrees with the Staff.

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| 20. | Nov. '74 OUSR p. 2-90 p. 2-92 | Not available | Surry 1 & 2. Enforcement Status: 1. Failure to submit a written abnormal occurrence report in 10 days. |
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Vepco's Response:

This incident speaks for itself. There is nothing even remotely relevant to Issue 5 in the failure to submit an abnormal occurrence report within 10 days. Vepco agrees with the Staff that this is irrelevant.

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| 21. | *11/7/74 (reported 1/10/75) See also: Feb. '75 OUSR | 99034 | Not available. |
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Vepco's Response:

Abnormal Occurrence Report AO-S1-74-13 says that during the fall of 1974 a tube rupture in component cooling heat exchanger 1-CC-E-1D resulted in the release of 8000 gallons of low-level radioactive component cooling water to the service water system and ultimately to the James River. Investigation revealed that there had been slow undetected leakage for 66 days. The incident was analyzed as two separate events: a 66-day slow leak and a 40-minute leak. The total amount of activity released was 2.433 curies. It was estimated, taking a prorated aggregate of all the radionuclides taken into account, that the release amounted to only 1.03 percent of MPC. No 10 CFR Part 20 limits were exceeded.

This document is already in evidence as Applicant's Exhibit V-7 (Tr. 2884-85). It is entitled to almost no weight, however, because the releases involved did not exceed the limits of 10 CFR Part 20.

22. 1/9/75 Not AO-S2-75-01.
 available

Vepco's Response:

AO-S2-75-01 says that on January 9, 1975, turbine building sump pumps had been shut off for the performance of a test. The turbine building sump filled and overflowed to the recirculation spray service water valve pit. The valves in the RS

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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valve pit could have been manually opened in the event of an accident even with the pit filled with water.

Because this incident involved no abnormal radioactive release to unrestricted areas, it is irrelevant to Issue 5. It is also irrelevant because the design of North Anna differs: there is no way for water from the sump area of the high pressure heater drain pumps to reach the recirculation spray service water valves (see Affidavit of William H. House, II, attached). The Staff as well as Vepco believes the incident to be irrelevant.

23. 1/18/75 93664 Not available.

Vepco's Response:

This letter from the AEC to Vepco deals with the same subject as Item 29 below (Accession No. 100905), namely, the civil penalties assessed against Vepco in early 1975 for three items of noncompliance with AEC requirements. (The AEC first proposed civil penalties for four items of noncompliance but later, see Item 29 below, remitted the fine for one of the 4.) All of the violations involved the Surry Power Station program for protecting against industrial sabotage and the safeguarding of special nuclear material. The three violations for which penalties were ultimately assessed were (1) the failure to escort a truck and driver on the plant roadway north of the

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reactor buildings, (2) the finding that eight door/gate intrusion alarms were inoperative, and (3) the finding that certain vital areas were accessible through an unlatched door where there were no security or operating personnel and where the interior intrusion alarms had been "de-energized to the access mode."

Obviously these fines had nothing to do with radioactive effluents, and so Mrs. Arnold's Items 23 and 29 are irrelevant to Issue 5. The Staff as well as Vepco finds them irrelevant.

24. *1/23/75 93256 A0-S1-74-16.

Vepco's Response:

This report describes an unplanned release of 349 gallons of low-level radioactive component cooling water to the James River, caused by pinhole leaks in two tubes in component cooling heat exchanger 1-CC-E-1C. The prorated aggregate of the concentrations of radionuclides present in the component cooling water during the leak was only 1.32×10^{-3} % MPC. Vepco concluded that no 10 CFR Part 20 limits were exceeded, nor was the limit specified in Technical Specification 2.11.a.2 for the calendar quarter.

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This document is already in evidence as Applicant's Exhibit V-5 (Tr. 2883, 2885). It is entitled to very little weight, because 10 CFR Part 20 limits were not exceeded.

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| 25. | 1/30/75 | 93618 | Event Report 74-03. (This may be a repeat item.) |
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Veeco's Response:

This document, USRE-S1-74-03, says that, during the unplanned release that is the subject of Item 21 above (Accession No. 99034), radiation monitor RM-SW-107 on the service water side of the component cooling water heat exchangers did not alarm as it should have when the service water contained radioactive contamination. (Item 21 above describes how the service water became contaminated as a result of a tube leak in the component cooling water heat exchanger.) The monitor had not alarmed because the flow through it was less than that required for proper operation. The lower-than-required flow occurred because pump 1-SW-P-6, which takes suction on the sample line from the service water side of the component cooling water heat exchangers to provide flow to the monitor, was inoperative. Investigation revealed that the pump design was inadequate: it would not allow a prime to be maintained, and as a result the pump bearing was wiped due to lack of water lubrication.

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The nonfunctioning of the radiation monitor meant that leakage from the component coolers was not detected as soon as it would have been had the monitor have been operating satisfactorily. The leak was detected by other methods, however, and the leakage was well below the limits of 10 CFR Part 20, so the failure of the monitor had no safety implications.

The pump failure described in this Item 24 is relevant to Issue 5. However, the incident is entitled to no weight, both because NRC regulations governing offsite releases were not violated, and because a design modification has been made at North Anna to make such an incident far less likely (see Affidavit of William H. House, II, attached).

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| 26. | Feb. '75 OUSR p. 2-92 | Not available | Not available. | Surry 1. Enforce- ment Status: 1. Failure to monitor river water temperatures. 2. Failure to monitor salinity at station intake. |
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Vepco's Response:

The failure to monitor river water temperature and salinity at Surry has nothing to do with control of radioactive effluents at North Anna. Therefore, this item is irrelevant to Issue 5. The Staff as well as Vepco thinks it irrelevant.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 27. 2/21/75 | 100266 | AO-75-04. | |

Vepco's Response:

AO-S1-75-04 says that on February 1, 1975, due to operator error, all three steam generator blowdown sample coolers were isolated, with the result that the steam generator blowdown activity was not continuously monitored by the steam generator blowdown monitoring system for approximately nine hours. No leakage was indicated by other sources.

This incident is relevant to Issue 5 but entitled to almost no weight, because it apparently involved no abnormal releases to unrestricted areas.

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| 28. *2/24/75 | 100265 | AO 75-03 | |
|--------------|--------|----------|--|

See also:
Mar. '75
OUSR
p. 2-92

Vepco's Response:

AO-S1-75-03 reports that on January 15, 1975, pressure control valve PCV-GW-107 was found to be stuck open, probably because of an accumulation of dirt and corrosion during a long period of inactivity. The result was that radioactive gaseous wastes from gas stripper surge tank 1-BR-10K-6 were released through the relief valve. The total release rate was only 2.1 percent of the limit specified by Technical Specification 2.11-2.b.1. This incident is relevant to Issue 5 but entitled to almost no weight.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 29. 3/19/75 | 100905 | Not available. | |

Veeco's Response:

This is the same set of civil penalties involving the Surry security plan that was involved in Item 23 above (Accession No. 93664). Veeco agrees with the Staff that it is irrelevant to Issue 5.

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| 30. *3/26/75 | 101728 | AO 75-07 | |
|--------------|--------|----------|--|

See also:
Apr. '75
OUSR
p. 2-92

Veeco's Response:

AO-S1-75-07 reports that an uncontrolled and unplanned release of low-level radioactive material was made to the discharge canal on March 13, 1975, when operator error caused a primary grade water tank to overflow for about two hours. The total release was less than one percent of Technical Specification limits.

This document is already in evidence as Applicant's Exhibit V-6 (Tr. 2883, 2885). It is entitled to very little weight, both because 10 CFR Part 20 limits were not exceeded and because testimony at the December 2, 1976, hearing indicated that a design change will be made at North Anna: the overflow line

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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will go to a pipe tunnel that drains to the auxiliary building, so that an overflow will not result in an offsite release (Tr. 2736-37, 2799).

31. See also: 102279
Apr. '75
OUSR
p. 2-92

Vepco's Response:

This document, characterized as "supplementary information for Abnormal Occurrence Report No. A0-S1-75-07," is simply an update of Item 30. It reports the number of gallons of water released (approximately 5400), specifies the concentrations of tritium and xenon, and says that Annunciator Procedure BR-20 was violated. The stated amount of activity released is unchanged from the original A0-S1-75-07.

This document is irrelevant to Issue 5 because of the design difference noted above (Item 30). The document is also inadmissible because it adds nothing of significance to Applicant's Exhibit V-6 (Item 30) and is therefore unduly repetitious.

32. Apr. '75
OUSR
p. 2-92

Surry 1. Enforcement Status:

5. Failure to obtain an eight man quorum for five SYNSOC meetings (Deficiency)
6. Failure to submit written abnormal occurrence reports within 10 days. (Deficiency)

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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Veeco's Response:

This item speaks for itself: failure to obtain an eight-man quorum for meetings and failure to submit abnormal occurrence reports within 10 days have nothing whatsoever to do with Issue 5. This item is irrelevant, as the Staff has concluded.

33. 4/11/75 101729 AOR 75-08.

Veeco's Response:

AO-S1-75-08 reports that on April 2, 1975, the nuclear flux axial offset was out of the target band (± 5 percent) for 1 1/2 hours during a start-up, at power levels below 50 percent. The operator restored the offset to a value within the band prior to exceeding 50 percent and believed the delta flux alarm, which occurred at the 50 percent power level, to be in error. An interval of three hours passed before it was realized that F_z surveillance was required under these conditions. Six of the half-hourly iterations of F_z surveillance were therefore not obtained while the unit was operating above 50 percent of rated power. The actual surveillance yielded satisfactory results.

This incident had nothing to do with radioactive releases. It is therefore irrelevant to Issue 5, as the Staff has concluded.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 34. 4/14/75 | 101780 | AOR 75-05. | |

Veeco's Response:

A0-S2-75-05 reports that on February 25, 1975, during 100 percent power operation, a check of the outputs of the excore detectors revealed that a radial tilt of a maximum 2.5 percent existed. The tilt resulted from a dropped control rod and prolonged operations to recover it.

This incident had nothing to do with radioactive effluents. It is therefore irrelevant to Issue 5, as the Staff has concluded.

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| 35. #4/18/75 | 101730 | AOR 75-09. | |
|--------------|--------|------------|--|

Veeco's Response:

A0-S1-75-09 reports that the process vent gaseous radiation monitor was inadvertently left in the calibrate mode for 24 hours in April 1975. During this time the process vent particulate monitor showed no unusual activity, and there were no planned gaseous releases during the time.

This incident is relevant to Issue 5. However, it is entitled to virtually no weight at all, because there were apparently no abnormal releases involved, and because the process vent particulate monitor provided a measure of redundancy.

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| 36. *4/28/75 | 102274 | AOR 75-11. | |
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| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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Veeco's Response:

AO-S1-75-11 reports that during normal operation on April 16, 1975, a pinhole leak developed in the recirculation line on charging pump 2-CH-P-1C. The particulate radioactivity in the leaking water became airborne and was released from the auxiliary building vent to the atmosphere. According to supplementary information submitted to the NRC under cover letter of July 11, 1975 (Item 41 below, Accession No. 104062), it is conservatively estimated that a maximum of 25 gallons of reactor coolant leaked from the charging system, and an inspection of the ventilation vent particulate radiation monitor chart showed that airborne particulate activity had been released from the site for about one hour. The amount of activity released was 897.2 μ Ci, and the Ventilation System flow during the release was only .03 percent of the maximum allowable.

This incident is relevant to Issue 5. However, it is inadmissible because it is unduly repetitious of Item 41 below. Also, because the release was monitored and did not violate the limits in NRC regulations, it would be entitled to almost no weight.

37. 6/3/75 103118 Special Report 75-02.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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Veeco's Response:

SR-S2-75-02 says that during the refueling operations for Cycle 2 of Surry Unit 2, fuel assembly N-20 incurred damage to two of the four hold-down springs on the top nozzle assembly. The fuel assembly designer (Westinghouse) evaluated the damage and concluded that the fuel assembly was acceptable for power operation. Westinghouse's conclusion was reviewed by Veeco's independent consultant and by the Station and System Nuclear Safety and Operating Committees.

This incident had nothing to do with radioactive effluents. It is irrelevant to Issue 5, as the Staff has concluded.

38. 6/20/75 103690 AOR 75-09.

Veeco's Response:

AO-S2-75-09 reports that on June 13, 1975, during reactor heatup it was discovered that the above-ground emergency condensate storage tank had contained less than the required 60,000 gallons of water for about nine hours. The unit's assigned 100,000 gallon underground emergency condensate storage tank, however, was full throughout the startup. There was no abnormal or unplanned release of radioactivity.

Since there was no abnormal release of radioactivity associated with this event, it is irrelevant to Issue 5. The Staff agrees that it is irrelevant.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
|-------------------------------------|-------------------------|----------------------|--------------------|
| 39. *6/30/75 | 103900 | Not available. | |

Veeco's Response:

Special Report SR-S1-75-02 describes the release of gaseous wastes, during April and May 1975, in excess of 4 percent of the Technical Specifications limit. The report says that several non-routine operations in April and May significantly increased the generation of liquid waste, requiring the continuous operation of liquid waste facilities at full capacity and causing the increase in Iodine-131 activity in the auxiliary building. As a result, the ventilation vent I-131 activity exceeded 4 percent of the Technical Specification limit. However, the report concludes that the quarterly limit defined in Technical Specification 3.11.B.2 (16 percent of the Technical Specification limit averaged over the quarter) would not be exceeded.

This item is relevant to Issue 5. However, it is entitled to very little weight because, as Mr. Massey has testified, the 4 percent limit is only a reporting requirement, not a limiting condition on operation (written Testimony of Joseph E. Massey on Radioactive Effluents at 8-9, following transcript of December 2, 1976, hearing at Tr. 2600). Another reason for giving the incident little weight is that North Anna 1 and 2 have greater capacity to process liquid waste than did Surry 1 and 2 (see Affidavit of William H. House, II, attached).

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 40. July '75 OUSR p. 2-92 | | | Surry 1. Enforcement Status: Contrary to Technical Specification 6.4.D, radiation control procedures have not been adhered to in that masks have not been stored in poly bags as stated in the Surry Radiation Health Physics Protection Manual. Contrary to Technical Specification 6.4.B.1.A the entrance to several areas in the auxiliary building having radiation intensities greater than 100 MREM/hour were not barricaded and posted. |

Veeco's Response:

The failure to store protective masks in poly bags and the failure to post radioactive areas within the Station are relevant to the treatment of radioactivity within the Station boundaries but were not associated with any offsite releases. Accordingly, these incidents are irrelevant to Issue 5.

41. *7/11/75 104062 AOR 75-11.

Veeco's Response:

This is the same report number (AO-S1-75-11) as Item 36 above (Accession No. 102274). Apparently the different accession number refers to the supplementary information to

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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A0-S1-75-11, which was submitted to the NRC by cover letter of July 11, 1975. The incident involved is relevant to Issue 5 (see Item 36 above), but entitled to very little weight.

42. *7/25/75 104383 Not available.

Veeco's Response:

SR-S1-75-03 says that routine sampling of the ventilation vent activity on July 9, 1975, revealed an Iodine -131 activity of 4.6 percent of the Technical Specification limit. The cause is believed to have been purging operations and maintenance activities associated with Unit 2 shutdown, together with the existing auxiliary building activity levels caused by the processing of liquid wastes. In order to reduce the level of activity in the ventilation vent, the containment purge exhaust was diverted through the charcoal filter system, and subsequent sampling revealed that this had reduced the I-131 activity to about 2.9 percent of the Technical Specification limit. Procedural changes were implemented to ensure that all future containment purges would be directed through the charcoal filters. The releases were well below the limits established by 10 CFR Part 20.

This incident is relevant to Issue 5 but entitled to very little weight.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 43. *7/30/75 | 106315 | AO SR-S1-75-04. | |
| | <u>Vepco's Response:</u> | | |
| | Special Report SR-S1-75-04, dated September 9, 1975, describes two occasions on which the ventilation vent gas release exceeded the 4 percent reporting requirement in Technical Specification 3.11.B.1. On July 30, 1975, the ventilation vent Iodine-131 activity exceeded 4 percent of the Technical Specification limit because of Unit 1 containment purging operations. The limit was again exceeded on August 4, 1975, because of a fitting leak on an overhead gas compressor. The Unit 1 containment purge was terminated and the affected compressor isolated. Ventilation vent I-131 activity declined below the 4 percent level on August 5, 1975, and returned to a constant level of 2-3 percent of the limit. | | |

These incidents are relevant to Issue 5 but entitled to very little weight.

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| 44. 8/12/75 | 104942 | AOR-S1-75. | |
|-------------|--------|------------|--|

Vepco's Response:

AO-S1-75-14, dated August 12, 1975, says that on August 1, 1975, during startup operations on Unit 1, sampling of the safety injection accumulators revealed that the boron concentration in 1C accumulator was approximately 1850 ppm. Technical Specification 3.3.A.2 requires that boron concentration be at

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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least 1950 ppm whenever the reactor is critical. The reactor was critical for approximately 8 hours while the accumulator boron concentration was below the specified limit.

The cause of the reduced concentration was that 1C accumulator had been diluted during unit heat-up operations the previous day. Inleakage, evidenced by an increase in accumulator level, occurred through loop check valves when the accumulator discharge valve was opened at a primary system pressure of approximately 950 psig. Operating procedures were revised to prevent a recurrence.

Because no abnormal radioactive release was associated with this event, it is irrelevant to Issue 5. The Staff agrees it is irrelevant.

45. *8/13/75
Sept. '75
OUSR
p. 2-94

Surry 1. Report Received from Licensee:

1. Date of event:
8/3/75.
Date of report:
8/18/75.
Unplanned radioactive gaseous release offsite from ventilation vent system.

Surry 1. Enforcement Status: Contrary to Technical Specification 6.4.D, radiation control procedures contained in the licensee's Radiation Protection Manual were not being followed in

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| | | | that a contaminated floor area in the auxiliary building was not being controlled as required; individuals were observed violating protective clothing requirements in the auxiliary building; and protective clothing was not being segregated as stated in the Manual. (Infraction). Contrary to 10 CFR 20.201(E), measurements of concentrations of radioactive material were not made in association with the sawing of contaminated lumber in the auxiliary building. (Infraction). |

Veeco's Response:

Licensee Event Report A0-S1-75-15, with cover letter of August 18, 1975, says that on August 3, 1975, a leaking fitting on "B" overhead gas compressor allowed airborne radioactive material to leak into the gas stripper room and then offsite by way of the ventilation vent system. According to the report, the sum of the ratios between the release rate for each radionuclide and the limit established by 10 CFR Part 20 was only 11.8% of that specified by Technical Specification 3.11.B.1. Accordingly, the event is entitled to very little weight, although it is relevant to Issue 5.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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The incidents from Inspection Report 50-280/75-09, namely the failure to post contaminated areas, the failure of two employees to wear protective clothing, the failure to segregate protective clothing, and the failure to measure concentrations of radioactive material associated with the sawing of lumber from contaminated areas, involve radiation control within the power station itself but have nothing to do with releases offsite. Accordingly, they are irrelevant to Issue 5.

46. 9/25/75 104880 AO-S1-75-17.

Veeco's Response:

This document, with cover letter of September 25, 1975, reports that a failure in the temporary service water piping, associated with an earlier service water piping leak, had caused a leak of service water, which had short-circuited a power transformer. This in turn had caused the breaker for heat tracing panel #1 to trip on overload. As a result, one channel of the redundant heat tracing required by Technical Specification 3.2 failed. The redundant channel, however, was still operable.

Because there was no release of radioactivity associated with this event, it is irrelevant to Issue 5. The Staff as well as Veeco finds it irrelevant.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 47. 10/10/75 | 106811 | AO-S1-75-21. | |

Veeco's Response:

This report says that on September 28, 1975, while Surry Unit 1 was at refueling shutdown, a safety injection master relay failed to latch while Performance Test 18.2 was being performed on one train. The redundant train as well as practically all outputs of the affected train operated correctly. When the latch adjustment screw was adjusted in accordance with the manufacturer's instruction manual, the relay performed satisfactorily.

Because there was no radioactive release associated with this incident, it is irrelevant to Issue 5. The Staff agrees that it is irrelevant.

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| 48. 10/24/75 | 107431 | AO-S1-75-23. | |
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Veeco's Response:

This document reports that on October 13, 1975, during refueling shutdown and performance of the periodic calibration of pressurizer pressure instrumentation, the low pressure reactor trip and the low pressure safety injection setpoint for three channels were found to be nonconservative by 11.4 psi, 27.0 psi, and 14.4 psi respectively. The pressure transmitter used in these instruments has a coarse zero adjust and a fine zero adjust. At each calibration the instrument is

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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supposed to be zeroed first with the coarse adjust; the fine adjust is to be used for adjustments no greater than 0.5 percent. Apparently the fine adjust had been used for single and cumulative adjustments greater than 0.5 percent.

The setpoint error was so small that the activation of the reactor trip or safety injection would not have been significantly delayed. The calibrating procedure has been revised to specify that the fine adjustment be no greater than 0.5 percent.

Because there was no radioactive release associated with this incident, it is irrelevant to Issue 5. The Staff also finds it irrelevant.

49. 10/30/75 107526 A0-S1-75-24.

Vepco's Response:

This report says that performance of the Type A containment leak rate test on January 16, 1975, as required by Appendix J of 10 CFR Part 50, revealed that the overall integrated containment leakage rate (that is, the rate of leakage of outside air into the containment) was 0.5881 percent by weight per 24-hour period, greater than the acceptance criterion of 0.1 percent per 24-hour period. Investigation revealed that the main source of leakage was through the "A"

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steam generator from the primary to the secondary system. Most of this leakage was through two defective tubes, but there was also significant leakage through the containment isolation valves in the recirculation spray system.

Because this incident involved no offsite releases, it is irrelevant to Issue 5. The Staff also says it is irrelevant.

50. *11/4/76 107696 SR-S1-75-05.
 (Event
 occurred
 9/29-10/23)
 See also:
 Oct. '75
 OUSR
 p. 2-92

Veeco's Response:

Special Report SR-S1-75-05 says that from September 29, 1975, to October 23, 1975, the ventilation vent Iodine-131 activity exceeded the 4 percent reporting requirement. This was caused, says the report, by Unit 1 containment purging operations, filter problems, and leakage and subsequent treatment of radioactive water that had accumulated in the containment basement. Applicable limits in Technical Specification 3.11.B were not exceeded.

This incident is relevant to Issue 5 but entitled to very little weight.

| | <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 51. | 11/26/75 | 108242 | SR-S1-75-06. | |

Veeco's Response:

This document reports that, as part of an investigation to assist in analyzing generic steam generator tube concerns, a tube was to be cut and removed from the "A" steam generator of Surry Unit 1. An undetected malfunction of the internal tube cutter caused the operator to receive a false indication that the tube wall had been completely cut through. The steam generator tube was pulled without having been cut first.

This inadvertent pulling of an uncut tube did not affect the structural integrity of the reactor coolant system pressure boundary, nor was it such as to affect the operation of the safety injection system or to interfere with normal operation.

Because there was no radioactive release associated with this incident, it is irrelevant to Issue 5. The Staff also finds it irrelevant.

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| 52. | 11/28/75 | 108255 | SR-S1-75-07. | |
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Veeco's Response:

This report says that on October 24, 1975, during refueling shutdown of Surry Unit 1, the manipulator crane was being moved in preparation for latching the full-length

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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control rods. During this movement the manipulator outer mast was inadvertently driven into the upper internals package, causing damage to the driveshaft at core location P-8.

Because there was no radioactive release associated with this incident, it is irrelevant to Issue 5. The Staff agrees it is irrelevant.

53. #Dec. '75
OUSR
p. 2-92

Surry 1. Enforcement Status:
Contrary to 10 CFR 20.401(b), the licensee failed to maintain records of results of air samples taken at various locations in the auxiliary building. (Deficiency).

Contrary to Technical Specification 4.9.A, the licensee failed to use and maintain installed equipment to keep levels of radioactive materials in effluents released to unrestricted areas as low as practicable. (Infract-ion)

Vepco's Response:

According to Inspection Report Nos. 50-280/75/14 and 50-281/75-13, both of these incidents were related to an unplanned release of radioactive material that occurred August 3 and 4, 1975. The reference to failing to

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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maintain records of results of air samples refers to the inspector's finding that only two air samples were taken in conjunction with the unplanned release. A Veeco representative said that a number of air samples were taken at various locations but that the results were not recorded because they did not reflect significant levels of activity.

The reference to failure "to use and maintain installed equipment" refers to the improper labeling of the ventilation vent air sampler. The selector button identified as "auxiliary building" was actually selecting the sampler suction point in the decontamination building and vice-versa. As a result, according to the inspector, the location and isolation of the leak that caused the unplanned release of August 3-4 appeared to have been severely delayed.

These incidents are relevant to Issue 5 but entitled to very little weight.

54. *12/11/75 108549 AO-S1-75-25.

Veeco's Response:

According to this report, on November 29, 1975, primary grade water tank 1-PG-TK-1B was filled to overflowing, and approximately 1,000 gallons of primary grade water entered the

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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yard area storm drains. The concentration of the water was only 0.29 percent of Technical Specification limits.

This document is already in evidence as Applicant's Exhibit V-9 (Tr. 2884-85). It is entitled to almost no weight, however, because the release involved did not exceed the limits of 10 CFR Part 20. It also is entitled to very little weight because of the design change described in connection with Item 30 above (see also Tr. 2736, 2799).

55. *12/18/75 109291 AO-S1-75-27.

Vepco's Response:

This report says that on December 5, 1975, primary grade water tank 1-PG-TK-1B had been filled and was being lined up to recirculate the water. However, the water was inadvertently pumped from tank 1B to 1A, causing 1A to overflow. Approximately 625 gallons of primary grade water spilled to the yard area, where it presumably entered the storm drains. A water sample indicated that the concentrations of radionuclides equalled only 0.44 percent of the Technical Specification limit.

This document is already in evidence as Applicant's Exhibit V-4 (Tr. 2882, 2885). It is entitled to almost no weight, however, because the release involved did not exceed

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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10 CFR Part 20 limits. It also is entitled to very little weight because of the design change described in connection with Item 30 above (see also Tr. 2736-37, 2799).

56. *1/13/76 109249 AO-S1-75-30.

Veeco's Response:

This report, attached to a cover letter of January 13, 1976, reports an incident that occurred December 30, 1975. A component cooling water/service water heat exchanger had had 36 tubes plugged as a result of eddy current tests. Two of the plugs worked part of the way out during operation and caused leakage from component cooling water to service water, resulting in an inadvertent release of low-level radioactive water to the James River. Based on the measured release rate, the prorated average for all radionuclides released was only 1.66×10^{-4} percent MPC.

This incident (which is the same as that involved in Item 60 below) is relevant to Issue 5 but entitled to very little weight.

| | <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 57. | Jan. '76 OUSR p. 2-96 | | | Surry 2. Enforcement Status: Contrary to 10 CFR 50.59(B), a written safety evaluation was not conducted for a modification to the liquid waste system as described in FSAR Section 11.2.3. (Infraction) |
| | | | | <p><u>Veeco's Response:</u></p> <p>This incident was a failure to document an improvement that was made in the liquid waste system. It was a failure to perform the appropriate paper work and had no effect in itself on offsite release of radioactive effluents. Accordingly, it is irrelevant to Issue 5.</p> |
| 58. | 1/13/76 Feb. '76 OUSR | | | Surry 1. Enforcement Status: Contrary to the requirements of 10 CFR 50.59(B) and paragraphs 5.2 and 5.3 of Section 3 of the Veeco Nuclear Power Station Quality Assurance Manual, the licensee made modifications involving the installation of perforated plates to the inlets of the moisture separators in the steam generators on Unit 1 during the period November 1-26, 1974, without performing a written safety evaluation. (Infraction). |

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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Vepco's Response:

This incident, reported in an NRC inspection report with cover letter of January 13, 1976, was a failure to provide the proper paperwork. No radioactive release was associated with it, and so it is irrelevant to Issue 5.

59. #2/3/76 110302 USRE-S1-76-01.

Vepco's Response:

This document says that on December 4, 1975, the Surry Unit 1 containment gaseous and particulate monitors were inoperable due to the failure of a bearing in the radiation monitor vacuum pump, which stopped the air flow through the detector. The Unit 2 containment gaseous and particulate monitors were also inoperable, due to a clogged inline charcoal filter. The Unit 1 monitors had been inoperable for 18 days; the Unit 2 monitors, for 42 days. Because of available alternate indications of containment activity and alternate methods of reactor coolant leakage detection, the inoperability of the containment gaseous and particulate monitors did not significantly affect the ability to operate the station safely.

This incident is relevant to Issue 5, but because there was no abnormal release of radioactivity associated with this incident and because redundant monitors were in service, it is entitled to very little weight.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 60. *Feb. '76 OUSR p. 2-96 (Repeat of 109249, above.) | | | Surry 1. Reports Received from Licensee: 4. Date of event: 12/31/75. Date of report: 1/13/76. An unplanned release of low level radioactive liquid to unrestricted areas. |

Veeco's Response:

As Intervenor Arnold notes, this is the same incident involved in Item 56 above (Accession No. 109249). (The licensee event report lists the date of the event as December 30, 1975, rather than as December 31.) The incident is relevant to Issue 5, but this document is unduly repetitious of Item 56 and therefore inadmissible.

61. 3/15/76 111661 AO-S1-76-01.

Veeco's Response:

This report says that the process vent air particulate monitor was inadvertently left isolated after maintenance on February 24, 1976. The isolation was discovered and the monitor returned to service on March 2, 1976. The weekly process vent particulate and iodine samples indicated no abnormal activity levels.

This incident is relevant to Issue 5, but because it did not involve abnormal releases of radioactivity offsite and because there were redundant monitors in service, it

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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is entitled to very little weight.

62. 3/26/76 112200 AO-S1-76-02.

Veeco's Response:

Licensee Event Report No. AO-S1-76-02 reports that the worst break LOCA core thermal transient analysis was inaccurate in that it did not take into account the effects of steam generator tube plugging. The report notes that an analysis using the approved ECCS Evaluation Model shows that the ECCS criteria, peak clad temperature 2200°F, are met for Surry Units 1 and 2 even with 6 percent of the steam generator tubes plugged.

Since there were no offsite consequences associated with this event, it is irrelevant to Issue 5. The Staff also finds it irrelevant.

63. #Apr. '76
 OUSR
 p. 2-98
 p. 2-100

Surry 1. Enforcement Status:

Contrary to commitments contained in Veeco Unusual Safety Related Event Report (USRE) S1-75-01, dated March 25, 1975, sampling of service water effluent from the component cooling water heat exchangers had been discontinued prior to installation of a radiation monitoring system modification designed to insure continuous radiation monitoring of the system as required by FSAR 11.3.3.5.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 63. (cont'd) | | | <p>Contrary to the requirements of Technical Specification 6.6.B.A, three abnormal occurrence reports (license event reports) were not submitted in 15 days. The written reports were submitted from 5 to 10 days later than the specified 15 days. This item is a repeat deficiency previously identified on March 18, 1975. (Deficiency).</p> <p>Surry 2. Enforcement Status:</p> <p>Contrary to the requirements of Technical Specification 3.7.E and Table 3.7-5, the automatic divert of Unit 2 air ejector exhaust to the containment was defeated when leads were lifted on terminal board-2-7 on the rear of radiation monitor, RM-SV-211, on January 8, 1975. (Infraction).</p> |

Vepco's Response:

The three events listed here were the discontinuation of the sampling of service water effluent from the component cooling water heat exchangers before the installation of a radiation monitoring system modification designed to ensure continuous radiation monitoring of the system; the failure

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to submit abnormal occurrence reports within 15 days; and the defeating of the automatic divert of the Unit 2 air ejector exhaust to the containment by lifting the leads on terminal board 2-7 on the rear of radiation monitor RM-SV-211.

The failure to submit abnormal occurrence reports on time is irrelevant to Issue 5. The other two incidents are relevant but entitled to very little weight. The sampling of the service water effluent that was apparently discontinued prematurely was an interim measure to be performed only until a design change had been made. Also, Vepco representatives reported to the NRC inspectors that an alternate method of leak detection had been used. As for the defeating of the automatic divert, there were manual means of performing the same function (see Tr. 2740-41).

64. 4/6/76 112377 A0-S1-76-02.

Vepco's Response:

The Staff says that this document is a repetition of Item 62 above (Accession No. 112200), although it is not clear to us why Mrs. Arnold gives the date as April 4, 1976. In any event, A0-S1-76-02 is irrelevant for the reasons stated for Item 62, and it is also unduly repetitious.

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 65. #May ' 76 OUSR p. 2-98 p. 2-100 | | | <p>Surry 1 & 2. Enforcement Status:</p> <p>Contrary to 10 CFR 20.203(B), the radioactive waste storage pad was not conspicuously posted as a radiation area on March 3, 1976. (Infraction).</p> <p>Contrary to Technical Specification 6.4.D, contamination control procedures contained in the Health Physics Radiation Protection Manual, Section 1.3.D.3, were not followed on March 2, 1976, and other previous dates, in that areas within the auxiliary building with spreadable contamination in excess of 220 disintegrations per minute per 100 square centimeters were not controlled and marked as required. This is a repeat item of noncompliance. (Infraction).</p> <p>Contrary to Technical Specification 3.11.A.4, the licensee's current method of processing and discharging radioactive liquid waste</p> |

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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| 65. (cont'd) | | | does not provide for a sample being taken and analyzed prior to release. (Infraction). Contrary to 10 CFR 20.201(B), the licensee did not make an adequate survey to determine compliance with 10 CFR 20.103, in that in individual involved in a contamination incident on January 20, 1976, was not adequately monitored for internal radioactivity. (Infraction). |

Veeco's Response:

The four excerpts from Inspection Report 50-280/76-3 and 50-281/76-3 listed by Mrs. Arnold are these: (1) the radioactive waste storage pad was not conspicuously posted as a radiation area; (2) areas in the auxiliary building with spreadable contamination were not controlled and marked as required; (3) Veeco's method of processing and discharging radioactive liquid wastes did not provide for a sample being taken and analyzed before release; and (4) an individual in a contamination incident was not adequately monitored for internal radioactivity.

Of these, only the one involving the method of processing and discharging liquid waste is relevant to Issue 5, and it is

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entitled to very little weight. At the time, according to the inspection report, liquid waste was being processed through ion exchangers and released continuously. Samples were taken at two-hour intervals, but at night and on week-ends the samples were composited for later analysis during the next day shift. This was apparently contrary to a Technical Specification, but there is no indication that the practice was improper in any other respect.

The other three incidents have to do solely with control of contamination in the Station itself and so are irrelevant to Issue 5.

66. 5/25/76 114198 A0-S1-76-02.

Vepco's Response:

This document is an update of Item 62 above (Accession No. 112200). It is irrelevant for the same reason as Items 62 and 64 and is unduly repetitious as well. The Staff also finds it irrelevant.

67. 5/27/76 114391 USRE-S2-76-05.

Vepco's Response:

This document reports the same type of event described in Item 49 above (Accession No. 107526): the performance of the Type A containment leak rate test revealed that the overall

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integrated containment leakage rate was greater than the acceptance criterion.

This incident did not involve the offsite release of radioactivity and is irrelevant to Issue 5. The Staff agrees that it is irrelevant.

68. 6/4/76 114624 AO-S2-76-03.

Veeco's Response:

This document reports that on May 21, 1976, while Surry 2 was at cold shutdown following a refueling, routine chemistry analysis of the primary coolant boron concentration showed that an unplanned dilution had occurred. The dilution was caused by leakage from the secondary side of the 2A steam generator.

The public health and safety was not affected. The plant design incorporates other features (the increasing audio and metered source range counts and the high-flux-at-shutdown alarm) that would have alerted the operator of a dilution had it been of a magnitude such that a significant reduction in shutdown margin had occurred. Any adverse effect from the dilution could have been negated by boration by the use of borated makeup or by the accumulators.

This incident is irrelevant to Issue 5. The Staff as well as Veeco finds it irrelevant.

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| 69. July '76 OUSR p. 2-98 p. 2-100 | | | Surry 1 & 2. Summary: Paragraph 2: . . . Two items of noncompliance related to decontamination of protective clothing and respirators and posting of licensee response to notices of violations were identified. |

Vepco's Response:

As the description shows, this incident involved the control of protective clothing and respirators within the station. It had nothing to do with releases offsite. Accordingly, it is irrelevant to Issue 5.

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| 70. 8/20/76 (Event), 9/15/76 (Report) | | | Partially open ACV 1936 caused nitrogen to pass through safety injection line (11-S1-105-152), pressurizer relief tank vent gas line (3/4"-VG-17-152) and HCV 1549 where a body to bonnet leak existed. (76-13) Preparation for routine recirculation of safety injection accumulator "B" revealed that the outside isolation valve (2-S1-73) in the accumulator test line was open. The valve is normally closed and administratively locked making this occurrence reportable as per technical specification 6.6.2.A(3), the redundant valves |
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| 70. (cont'd) | | | were found closed. Inadequacy in the implementation of administrative controls caused a reduction of degree of redundancy in the containment isolation system. |
| <u>Vepco's Response:</u> | | | |
| This was, as the description above reveals, a reduction of redundancy in the containment isolation system. No abnormal release of radioactivity was involved, and so the incident is irrelevant to Issue 5. The Staff as well as Vepco finds it irrelevant. | | | |
| 71. 9/13/76 (Event), 9/22/76 (Report) | | | (ER 76-7) Due to recent interpretational changes in the intent of Sec 3.11.B of the Surry ETS, the gaseous and airborne particulate wastes originating from station operation for the previous 12 months were recalculated. The results indicated a violation of ETS 3.11. B.2 in that the monthly average was 10.188 percent or .188 percent greater than specified. The level of gaseous and airborne particulate wastes were primarily related to steam generator primary to secondary tube leakages. Some procedural errors were also found in the release calculations. |

| <u>Date of Occurrence or Report</u> | <u>Accession Number</u> | <u>Report Number</u> | <u>Description</u> |
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Veeco's Response:

This change in calculations was covered in the NRC Staff's testimony at the December 2, 1976, hearing in this proceeding. The Supplemental Testimony of Albert F. Gibson, III, at 6-7, following Tr. 2765, says that despite the miscalculation, previous gaseous releases would have been well within the current Technical Specifications. Accordingly, this change in calculations is relevant to Issue 5 but entitled to very little weight.

SUMMARY

In short, Veeco objects to the admission of Items 1, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15 (in part), 16, 19, 20, 22, 23, 26, 29, 32, 33, 34, 37, 38, 40, 44, 45 (in part), 46, 47, 48, 49, 51, 52, 57, 58, 62, 63 (in part), 64, 65 (in part), 66, 67, 68, 69, and 70 on the ground that they are irrelevant. Veeco objects to Items 1, 31, 36, 60, 64, and 66 as unduly repetitious.

The NRC Staff objects only to Items 6, 7, 11, 13, 14, 16, 19, 20, 22, 23, 26, 29, 32, 33, 34, 37, 38, 44, 46, 47, 48, 49, 51, 52, 62, 64, 66, 67, 68, and 70, all on the grounds

of irrelevancy.

Items 2, 5, 17, 21, 24, 30, 54, 55 are already in evidence (though Item 5 is still subject to a motion to strike, and Vepco has moved above to strike it).

Of the Items that the Staff finds relevant but Vepco does not, at least in part (Items 1, 2, 5, 9, 12, 15, 40, 45, 57, 58, 63, 65, and 69), several have to do only with contamination control within the Station itself: Items 12, 15, (in part), 40, 45 (in part), 65 (in part), and 69.

Several Items are either irrelevant, or entitled to little weight, because of facts referred to in the attached affidavits. Those Items are 9, 13, 14, 16, 22, 25, 30, 31, 39, 54, and 55.

Respectfully submitted,

VIRGINIA ELECTRIC AND POWER COMPANY

By its Attorney:

/s/ James N. Christman

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DATED: March 11, 1977

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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

AFFIDAVIT OF
WILLIAM H. HOUSE, II

I, William H. House, II, hereby affirm the following:

1. I am Supervisor, Nuclear Engineering Services, for Virginia Electric and Power Company. An accurate statement of my professional qualifications appears in the transcript of the public hearing in this proceeding held in Charlottesville, Virginia on December 2, 1976 (following Tr. 2600).

2. The facts recited in the discussion of Items 9, 13, 14, 16, 22, 25, 30, 31, 39, 54, and 55 above dealing with design differences between Surry 1 and 2 and North Anna 1 and 2 are true and correct to the best of my knowledge and belief.

William H. House, II

William H. House, II
Supervisor, Nuclear Engineering
Services
Virginia Electric and Power Company

DATED: March 11, 1977

Signed and sworn to before me by William H. House, II
this 11th day of March 1977.

Carolyn J. Salmor
Notary Public

My commission expires 9/15/80

Signed and sworn to before me by B. Ralph Sylvia
this 11th day of March 1977.

Walter P. Monrook
Notary Public

My commission expires 8-26-79

CERTIFICATE OF SERVICE

I certify that I have served a copy of Vepco's Views on the Relevancy to Issue 5 of the Documents Designated Intervenor Arnold on each of the persons named below by mailing him a copy today, by first class mail, to the address set out below:

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Washington, D.C. 20555

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By /s/ James N. Christman

James N. Christman, Counsel
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DATED: March 11, 1977