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MAR 28 1985

University of Virginia
ATTN: Dr. R. U. Mulder, Director
Reactor Facility
Charlottesville, VA 22901

Gentlemen:

SUBJECT: REPORT NO. 50-62/84-01

Thank you for your responses of February 20, 1985, to our Notices of Violation and Deviation, issued on January 25, 1985, and your "unsolicited" response, also dated February 20, 1985, to NRC Inspection Report 50-62/84-01, concerning activities conducted at your Pool Reactor Facility. We have evaluated your responses and found that they meet the requirements of 10 CFR 2.201. We will examine implementation of your corrective actions during future inspections.

Some elements of your responses appear to show that you may not have a clear understanding of NRC concerns relative to the inspection findings or the intent of the regulations in regard to surveys. Your attention is invited to the enclosure to this letter which detail the NRC position in regard to these elements.

We appreciate your cooperation in this matter.

Sincerely,

J. Nelson Grace
Regional Administrator

Enclosures:

- Staff Assessment of Licensee Response to Notice of Violation
- Staff Assessment of Licensee Response to NRC Inspection Report 50-62/84-01

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ENCLOSURE 1

STAFF ASSESSMENT OF LICENSEE RESPONSE TO NOTICE OF VIOLATION

1. Licensee Comment

Contrary to the NRC staff opinion, the licensee does not believe that the radiation "hot spot" was safety significant because:

- a) A significant radiation exposure to an unmonitored person could only have occurred if the individual had crouched against the reactor building wall at precisely the optimum location. As stated, the area is unsuited for traffic and is essentially never occupied, so the overexposure assumption is not credible.
- b) The prior radiation surveys performed by the licensee, which did not reveal the "hot spot", were believed at the time to be adequate and reasonable under the circumstances to evaluate the extent of radiation hazards that could have been present. The "hot spot" would otherwise have been found had it been centered at waist height, where it would have begun to have had potential for whole body exposure. (Since the reported event the licensee has complied with the NRC's interpretation of "adequate" and "reasonable" surveys. Further "corrective" measures are described in following sections.)

NRC Response

- a) We agree that the probability of a significant personnel radiation exposure in this situation was low and that fact was considered by the NRC in determining the significance of the violation. However, the standard specified in 10 CFR 20.105(b) is "if an individual were continuously present in the area."

Clearly, had an individual actually received a dose greater than 10 CFR 20.101 limits, the safety significance would have been greater. Also relevant is the fact that you had no controls in place to preclude or limit access to the area by unmonitored personnel. It also should be noted that a person could also have received a whole body exposure if he were standing or sitting in the vicinity of the wall. The radiation level measured by the inspector was in excess of five millirems per hour, eighteen inches from the wall, and could have caused an exposure to an individual's thighs (part of the whole body) if he were standing or to his back or head if he were sitting in proximity to the wall.

- b) Your surveys are not considered to have been reasonable under the circumstances since no extraordinary measures were required to access or detect the radiation field. It was not appropriate to assume that radiation levels of significance existed only at waist height, given the fact that there were sources inside the confinement building below this level.

2. License Comment

It is probable that the NRC staff's opinion is based on a statement made in the inspector's report which fails to properly address its location.

NRC Response

The NRC position is based on a review of all the inspection findings by the NRC, including your Licensee Event Report (LER) dated November 1, 1984, and the facts presented at the Enforcement Conference held at your facility on October 22, 1984. One purpose of the Enforcement Conference was to give you the opportunity to provide any additional facts pertaining to the violations. You did not state in your response to the Notice of Violation in what sense you believe the inspection report failed to properly address the location of the excessive radiation level. We can find no inconsistencies in this regard between the inspection report statements and (1) your description of the location of the radiation field in your LER, (2) the facts presented by you at the Enforcement Conference, or (3) the facts presented in your response to the Notice of Violation.

3. Licensee Comment

The licensee has reviewed public documents pertaining to NRC notices of violation served on other licensees, in order to verify consistency in the application of Severity Level III categories. The licensee believes that since this infraction was not of safety significance and was limited to one instance, a Severity Level IV categorization would have been more appropriate. The review of the public documents seems to support this belief.

NRC Response

The NRC Enforcement Policy is described in 10 CFR Part 2, Appendix C, as revised, 49FR 8583 (March 8, 1984). Supplement IV thereto lists severity categories for various types of violations in the health physics area. The supplements serve as a measure for consistent application of the enforcement policy by enabling the NRC to compare the violation under consideration to examples given for various severity levels. The second example of a Severity Level III violation in Supplement IV, 10 CFR Part 2, Appendix C is a radiation level in an unrestricted area such that an individual could receive greater than 100 millirems in a one hour period, or 500 millirems in any seven consecutive days. Although the likelihood of any individual receiving exposure greater than those values was small, the failure to detect the situation over a three-week period was indicative of the potential for a more serious situation.

ENCLOSURE 2

STAFF ASSESSMENT OF LICENSEE RESPONSE TO NRC
INSPECTION REPORT 50-62/84-01

1. Licensee Comment

Given that the NRC inspector had in hands a finished draft of his inspection report at the time of the exit interview with the licensee, it is unreasonable that so much time was allowed to expire before the report was sent to the licensee. Under general expectations of reciprocity, this exchange should have been concluded within the customary 30 days given the licensee for his response. Since an Enforcement Conference was called for by the NRC as a result of issues raised during the inspection, the inspector's report would have become a vital starting point for this licensee's defense.

NRC Response

The notes assembled by an inspector so that he can conduct an orderly exit interview are generally not in the form of an inspection report. The time required for issuance of an inspection report involving escalated enforcement issues is accounted for by Regional management's review and evaluation of the inspection findings, conduct of the Enforcement Conference and consideration of the facts presented therein, and the NRC Office of Inspection and Enforcement's review and approval of the proposed enforcement action. This process, while lengthy, is designed to assure that the enforcement action is equitable and appropriate for the situation. More recently, Region II has begun issuing inspection reports separately and in advance of issuance of escalated enforcement correspondence.

2. Licensee Comment

It was noted by U.Va. Reactor Facility Management and Staff, with regard to the "hot spot" found by the inspector, that the NRC characterization of the infraction changed from the time of the exit interview to the time of the Enforcement Conference. At the exit interview, the NRC inspector alleged an infraction of 10 CFR part 20.203. B concerning the posting of a radiation area. This brought up the issue of whether the field occupied sufficient volume to constitute a "radiation area." Later, during the Enforcement Conference, after the licensee made his defense on this basis, the characterization was changed to failure to conduct an adequate survey.

NRC Response

The categorization of the inspection findings is determined by NRC management based on careful review of all the relevant facts, including those presented at the Enforcement Conference. The position taken by an inspector at an exit interview is only a preliminary statement of the inspection findings, which is why they are typically categorized as

"apparent violations" at that time. In this particular case, NRC review of the facts discovered that a more basic cause of the excessive radiation level was your failure to perform an adequate survey. However, we agree that the NRC should have notified you of this reassessment prior to the Enforcement Conference.

3. Licensee Comment

The inspector's report unfortunately omitted facts about the hot spot that very likely had a bearing on the NRC staff's final point of view that it was of safety significance. The radiation field was localized to a very small area of relatively free access but extremely low occupancy rate. The radiation levels exceeding permissible limits existed within a distance of about 32 inches from the ground and a radius of about 39 inches from a point at the base of the reactor building wall. Only if an individual had crouched against this wall for a substantial time period at precisely the optimum location would a significant exposure have occurred. The area is not suited to traffic and is essentially never occupied, so the overexposure assumption is not credible.

NRC Response

The inspection report contains only relevant facts discovered or verified by the inspector. The inspection report did not characterize the radiation field as being localized to a very small area because what is most important is that an individual member of the public could have been exposed, although with a low likelihood.

4. Licensee Comment

In general, the report is consistent with the issues raised at the exit interview on October 13, 1984. However, the NRC inspector did not mention during the exit interview his discovery of HP survey records completed in pencil, and that assurances were given by a "licensee representative" that future records would be completed in ink. As a matter of fact, a recent HP trainee did complete some surveys in pencil. Normally, they are and will be completed in ink.

NRC Response

The inspector noted during the inspection that some survey records were completed in pencil and a licensee representative, the Reactor Facility Health Physicist, stated that he would assure that these records were completed in ink in the future. The inspector determined that no further action was required on this matter since no potential violation of regulatory requirements existed. This matter was not discussed in the exit interview because only substantive issues requiring licensee management attention are discussed in the exit interview. In regard to your statement concerning a recent HP trainee's documentation of his surveys, we expect that surveys required by the regulations are only performed by or under the direct supervision of qualified personnel. In the future, all areas requiring licensee commitment will be discussed in the exit interview.

5. Licensee Comment

The NRC inspector failed to note in his inspection report that the hot spot found by him was centered at ground level. The adequacy of the survey performed by the Facility's HP technician was not made an issue at the exit meeting. Instead, the infraction was characterized at that time as a violation of 10 CFR part 20.203.B concerning the posting of the radiation area.

NRC Response

The inspection report described the radiation field as being a hot spot on the outside wall of the confinement building of 39.3 millirems per hour at contact and 5.6 millirems per hour at eighteen inches. The significant finding was that the radiation level at eighteen inches could have caused a whole body exposure to an individual present in the area in excess of that permitted in an unrestricted area by 10 CFR 20.105(b).

At the time of the exit interview, the finding was categorized as an apparent violation of 10 CFR 20.203(b), failure to post a radiation area. It was subsequently determined by the NRC as a result of the normal review process that a violation of 10 CFR 20.201(b), failure to perform an adequate survey, was the apparent root cause of the excessive radiation level.

6. Licensee Comment

During his inspection, the NRC inspector found the vault to the waste holding tank unlocked because a staff member was performing maintenance on the circulation pump. The area was temporarily unattended because the staff member had left to get some tools. The vault in question is kept locked at all times other than for maintenance or waste liquid release and the key is kept in the Facility safe.

NRC Response

The inspector observed on at least three occasions during an approximate six-hour period that the vault was both unlocked and unattended.