

January 28, 1997

Mr. A. M. Zielinski, Sr. Technical
Leader, Industrial Hygiene
General Electric Company
Lighting Environmental, Health
and Safety Department
1975 Noble Road,
Nela Park, Cleveland, OH 44112-6300

SUBJECT: GETTER ROOM DRAIN LINES DOSE/RISK ASSESSMENT FOR THE CHEMICAL
PRODUCTS PLANT (LICENSE NO. SMB-191)

Dear Mr. Zielinski:

We have completed our review and evaluation of the *Final Report for the Dose/Risk Assessment of Getter Room In-Place Drain Lines At GE Lighting's Chemical Products Plant Located in Cleveland Ohio*, NES, Inc., September 1995. Based on the results of the evaluation, the NRC believes the assessment is not adequate to conclude that you will comply with the ALARA principle. The uncertainties in the source term are too large, the pathway scenarios are not realistic, and the pipes are not sufficiently characterized by measuring only at the ends.

If it is still your intent to avoid removal of the drain lines, you should submit an ALARA analysis as the basis for leaving the pipes in place. The ALARA justification should include a discussion of possible decontamination and measurement methods and a description of the actions that you will take to minimize the dose. The ALARA analysis should detail the risk involved as well as the environmental and health impacts resulting from the decision.

Additional measurements will be needed for the ALARA analysis. Specific measurements will reduce the need for excessive conservatism. For additional guidance, refer to the enclosed, "Attributes of ALARA Analysis Pertinent to the Contaminated Pipes in GE Chemical Products Plant Getter Room."

If you have any questions regarding this letter, please contact Mr. William Snell of my staff at (630) 829-9871.

Sincerely,

Original Signed by
B. L. Jorgensen, Chief
Decommissioning Branch

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PDR ADOCK 04000534
C PDR

Enclosure: As stated

cc w/encl: J. Hickey, NMSS/DWM

bcc w/encl: PUBLIC (IE07)

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Attributes of ALARA Analysis Pertinent to the Contaminated Pipes in GE Chemical Products Plant Getter Room

The circumstances of this particular pipe case are such that the licensee cannot achieve the criteria stated in Regulatory Guide 1.86, "Termination of Operating Licenses for Nuclear Reactors." The ALARA philosophy continues to apply, and the licensee should demonstrate compliance with the requirements of 10 CFR 20.1101(b) by evaluating measurement methods, remediation approaches, and excavation techniques. 10 CFR 20.1101(b) requires that:

"The licensee shall use, to the extent practicable, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA)."

Specific measurements throughout the pipe will be needed to characterize the source term more accurately and to confirm that there are no traps and no hot spots. Remediation and excavation of the contaminated pipes should then be implemented unless an ALARA analysis indicates that a substantial reduction in collective dose would not result or costs are considered unreasonable.

A determination of reasonableness may be based on a qualitative analysis requiring the exercise of judgment and consideration of factors that may be difficult to quantify. These factors could include nonradiological social or environmental impacts, the availability and practicality of alternative technologies, and the potential for unnecessarily increasing public exposures. Reasonableness may also be based on a quantitative cost/benefit analysis. Preparation of an ALARA cost/benefit analysis requires the use of a dollar value per unit dose averted. The staff recognizes that varying degrees of justification exist for a wide range of dollar values.

For example, after better measuring the pipe drains, if the licensee determines that the dose is large enough to adversely affect public safety, then remediation or excavation will be done. However, if the licensee's ALARA analysis justifies leaving the pipes in place, then a discussion, which may include the reasons given above, would entail the safety and environmental impact of the decision. If cost is a major factor, then the licensee should include an analysis of the cost and the available technologies that can be used to decontaminate pipes (e.g. freeze-dried carbon dioxide blasting technique, high-pressure blasting technique).

Additional guidance on ALARA programs can be found in several regulatory guides. While these guides deal primarily with occupational exposure and may be specific to one type of licensee, they contain programmatic information that may be useful to all licensees. They are as follows:

Regulatory Guide 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As Is Reasonably Achievable."

Regulatory Guide 8.18, "Information Relevant to Ensuring that Occupational

Radiation Exposures at Medical Institutions Will Be As Low As Reasonably Achievable."

Regulatory Guide 8.31, "Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Mills Will Be As Low As Is Reasonably Achievable."

Regulatory Guide 8.37, "ALARA Levels for Effluents From Materials Facilities."

Regulatory Guide 10.8, "Guide for the Preparation of Applications for Medical Use Programs," Section 1.3 and Appendix G.