7/14/81

MEMORANDUM FOR COMMISSIONER GILINSKY

FROM: Glenn H. Hutchins GHH

SUBJECT: AUTOMATION INDUSTRIES, ABNORMAL OCCURRENCE

The Incident

On February 3, 1981, Mike Santoro, the Plant Manager for Automation Industries' (AI) nuclear encapsulation facility in Phoenixville, Pa. reported to the NRC possible radiation overexposure resulting in damage to the hands of three employees. 1/ Three investigations conducted by NRC Region I over the next two weeks revealed the following: 2/

A routine task at the AI facility involves the removal of radioactivity (primarily Iridium 92 and Cobalt 60) from contaminated "sources" used in industrial radiography. 3/ 4/ This was done --for up to 7 years prior to the incident and the NRC investigation -- by an employee using an ordinary pipecleaner with his bare hands and without the benefit of any radiation monitoring devices. 5/ Two employees (A&B) first noticed persistent irritations of the skin and under the nail of their thumbs in July, 1980. 6/ They brought the problem to the attention of Santoro's assistant, Stephen Boyko, the Manager of Nuclear Products, 7/ who suggested the "possibility" of a relationship between the problem and the source-cleaning procedure. 8/ Santoro first learned of the problem from Employee B in September, immediately recognized a possible connection to radiation overexposure, and inspected

both employees' hands 3 or 4 times during September and October. 9/ As Employee A's condition continued to worsen noticeably during November, 10/ both A and B confronted Santoro, who once again mentioned a possible connection to radiation exposures from source-cleaning. 11/ Yet, Santoro did not acknowledge the need for medical attention, deciding only to grant A's request to stop cleaning sources. 12/

In late November, Santoro hired a third individual (Employee C) for the job of source-cleaning. 13/ C was trained to perform the source-cleaning procedure, but was warned by A and B of the danger of radiation exposure. 14/ In fact, Employee C told NRC investigators that at the time he was hired there was, despite management disavowals, "a general awareness on the part of the employees that the injuries to the hands of both individual A and individual B may be due to exposure from cleaning sources." 15/ Nevertheless, and in spite of much discussion about changing the source-cleaning procedure, Employee C used the old procedure through December; 16/ a new procedure was not implemented until January. 17/ NRC investigators subsequently calculated radiation doses for 1980 to A of approximately 25,000 rads, to B of approximately 7,000 rads and to C of approximately 1,000 rads 18/ and further concluded that such overexposures had been occurring for as long as seven years. 19/

Through December and January, Employee B's problem worsened markedly, becoming as bad as Employee A's. 20/ On the 19th of January, the two confronted Santoro and asked to see a doctor. 21/ According to the two employees, "Mr. Santoro's main concern seemed to be that the NRC would fine him or shut him down and the company might fold the division." 22/

On January 21, 1981, representatives of NRC Region I performed a "routine unannounced health physics inspection" of the plant. 23/ Employee A has testified that, during the inspection, he was instructed by Santoro not to speak to the inspectors and, further, to wear gloves to conceal the condition of his hands. 24/ Employee B, though not privy to the conversation, verified that this was the substance of Santoro's instructions as recounted to B by A just after the conversation. 25/ Moreover, Claude Rowe, the NRC Radiation Specialist who conducted the inspection, recalls asking Boyko specifically whether there had been any radiation exposure problems and also inquiring generally with Santoro whether there was anything occurring in the plant of which the NRC should be aware. 26/ Both plant officials responded in the negative.

Nothing was done by AI's management until January 30 when, at the insistence of A and B, Santoro phoned a doctor specializing in radiation sickness. 27/ On the following Monday (2/2), the doctor visited the plant and immediately diagnosed "chronic radiodermatitis" resulting from prolonged radiation

contamination. 28/ 29/ (The latest indications are that Employee A will lose his right thumb.) Only then did Santoro notify the NRC. 30/

Although Santoro and AI initially disputed the foregoing findings, the company's brief 31/ in response to the NRC's subsequent sanctions (infra) admitted to virtually the entire account.

NRC's Response

The subsequent investigations 32/ by Region 1 enumerated three counts of formal noncompliance: 33/

(1) Overexposure of radiation in violation of 10 CFR 20.101a, which forbids doses to the hands in excess of 18.75 rems per calendar quarter. Region 1 calculated doses to employees A and B in excess of 375 rems for each of the quarters of 1980 and to employee C in excess of 18.75 rems for the last quarter of 1980.

(2) Failure to provide radiation monitoring equipment for employees likely to receive a dose of 25% of the "applicable value" (18.75 rems), in violation of 10 CFR 20.202(a).

(3) Failure to report exposures in excess of 375 rems, in violation of 10 CFR 20.403(a). Region I concluded that the licensee knew of the overexposures at least by November, 1980 but didn't report them until February, 1981.

As a result, Victor Stello, the Director of Inspection and Enforcement, suspended AI's license and ordered it to show cause why the license should not be rescinded. 34/ Moreover, Stello specifically alleged that AI had concealed the overexposures from the NRC during the January 21 inspection. 35/ There ensued three meetings between the staff of Region I and AI. 36/ Then, on February 26, AI officials travelled to Bethesda for a meeting with Dudley Thompson, the Director of Enforcement and Investigation. 37/ 38/ The next day, AI filed its answer to Stello's order. 39/

In its answer 40/, AI admitted to the NRC's findings, specifically, that it knew of "possible overexposures" as early as November of 1980, that it did not report these overexposures as required by the terms of its license, and that it did not take proper and obligatory action to preclude other exposures. Further, AI did not deny having intentionally concealed the overexposures from the NRC, admitting that this was the conclusion drawn by the NRC's investigators and stating only that it did not have "present knowledge or information sufficient to form a belief as to the truth" of the charge. 41/

Moreover, AI's answer detailed management and procedure changes made in response to Stello's order: 42/

(1) Appointment of a new Operations Manager, based at the company headquarters in Danbury, and of Stephen Bcyko (who admits knowledge of the problem as early as late summer, 1980 43/ and who is accused of lying to NRC inspectors) as his on-site deputy.

(2) The transfer (not the dismissal) of Santoro to a "non-management" position in "engineering and design" at the same plant.

(3) The appointment of a radiation safety officer to be assisted by an outside consultant.

(4) The adoption of new source-cleaning, leak-testing and decontamination procedures in addition to the provision of extremity dosimeters.

Finding this satisfactory, Stello lifted the suspension on March 6th, only 17 days after its issuance. 44/

Next, Boyce Grier, the Director of Region I, recommended that AI be fined $20,000 because the magnitude of its negligence and the severity of the violations were exacerbated by three uncontroverted facts: 45/

(1) AI management knew of the overexposure at least as early as November of 1980 and did nothing either to correct the problem or to provide medical assistance to the employees.

(2) When the problem became widely known to existing employees who refused to perform the cleaning procedure, AI hired a new employee for the job and knowingly subjected him to radiation overexposure.

(3) AI consciously and systematically concealed the problem from the NRC.

Further, Grier recommended that the Justice Department be requested to investigate whether a criminal prosecution should be started in view of AI's "willful noncompliance". 46/ To buttress these recommendations Grier provided copies of AI employees' sworn statements documenting Region I's charges 47/ and a record of AI's enforcement history 48/ which evidences a continued pattern of non-compliance.

Nevertheless, Stello decided not to impose a fine on AI. 49/ The rationale for this decision is presented in the attached memo 50/ from J.R. Metzger (the I&E case worker on the incident) to Dudley Thompson. Metzger asserts -- without documentation -- that AI's expenses eventuating from the 17-day suspension exceeded the recommended $20,000; he contends

that, given the remedial actions taken by AI and the criminal investigation initiated by the Department of Justice, there is no further purpose to be served by fining the company. Expressing reluctance to "sandbag" the unfortunate licensee, Metzger characterizes Grier's recommendation as "primarily based (implicitly) on the serious overexposures to employees."

Comments

Metzger's memo mischaracterizes Grier's recommendation, ignoring three grounds for a fine. The first is, quite simply, punishment. Grier urges a fine not just as an incentive to corrective action, but equally as the minimum penalty warranted by the licensee's established and flagrant pattern of neglect both of NRC regulations and of employee health and safety. Further, the intentional concealment of the problem from the NRC not only constitutes a possible criminal violation actionable by the Justice Department, but reflects most unfavorably on AI's competence to discharge the responsibility for the public well-being which it assumes in its work with radioactive materials. Finally, if the NRC's regulatory policies and personnel are to be respected, it would seem that such serious violations and attempted cover-ups must be penalized swiftly and severely.

NOTES

1/ Appendix A, p. 10 and p. 27.

2/ NRC Inspection Report #30-5998/81-02, Feb. 3, 5 and 6, 1981, Appendix A, pp. 9-17; Attachment 2, February 3-12, 1981, Appendix A, pp. 18-38; and Attachment 2, Addendum, Appendix A, pp. 39-50.

3/ The procedure is described in detail in Appendix A at p. 11.

4/ Photographs of the procedure are in Appendix A at pp. 32-34.

5/ Appendix A, pp. 13-14.

6/ Ibid, p. 10, 22 and 23.

7/ Ibid, p. 12, 24 and 36.

8/ Ibid, p. 24 and 36.

9/ Ibid, p. 23.

10/ Ibid, p. 10.

11/ Ibid, p. 15-16, 20, 22, and 37.

12/ Ibid, p. 22.

13/ Ibid. p. 12, 22 and 23. Although Santoro originally denied hiring C "exclusively" for the job of source-cleaning, he later admitted to it in interviews by NRC investigators. Cf Appendix A, p. 37.

14/ Appendix A, p. 22 and 58.

15/ Ibid, p. 23.

16/ Ibid, p. 58.

17/ Ibid, p. 12 and 23.

18/ Ibid, p. 14.

19/ Ibid, p. 15.

20/ Ibid, p. 22.

21/ Ibid, p. 22.

22/ Ibid, p. 22. See also p. 42, 56 and 57.

23/ Ibid, p. 21.

24/ Ibid, p. 22, 42 and 56.

25/ Ibid, p. 42 and 57.

26/ Ibid, p. 21, 31 and 37.

27/ Ibid, p. 22 and 25.

28/ Ibid, p. 25.

29/ See photographs of the employees' thumbs, Appendix A, at p. 35 and pp. 45-50.

30/ See Note 1.

31/ Appendix C, pp. 3-6.

32/ See Note 2.

33/ Appendix A, pp. 5-6.

34/ Appendix B, entire.

35/ Ibid, pp. 5-6.

36/ Appendix C, p. 1.

37/ Ibid, p. 1.

38/ Ibid, p. 7.

39/ Ibid, pp. 7-40.

40/ Ibid, pp. 10-11.

41/ Ibid, p. 11.

42/ Ibid, pp. 11-40.

43/ See Notes 7 and 8.

44/ Appendix C, pp. 1-6.

45/ Appendix A, pp. 1-6.

46/ Ibid, p. 1.

47/ Ibid, pp. 51-58.

48/ Ibid, pp. 7-8.

49/ This is not the first time that a fine recommended by Grier has been countermanded in Bethesda. Cf Radiation Technologies, in "Report to Congress on Abnormal Occurrences", October-December 1977, NUREG-0090-10, p. 16. In that case, after a 21 day suspension, the Licensee was allowed to resume operation with impunity despite a recommendation from Grier of a fine of $13,500 for "flagrant disregard for Commission regulations and license conditions by licensee management". (quoted from a 10/21/77 letter from Boyce Grier to Leo Higginbotham, then Acting Director, Division of Fuel Facility and Materials Safety Inspection, Office of Inspection and Enforcement).

50/ Appendix D, entire.