

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

In the Matter of

CTI, Inc.  
Martinez, California

)  
)  
)  
)

Docket No. 15000004  
EA 92-127

ORDER IMPOSING CIVIL MONETARY PENALTY

I

CTI, Incorporated (CTI or Licensee) is the holder of a general license issued by the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 150.20. The general license authorizes CTI to perform radiography in areas under Federal jurisdiction in accordance with the conditions specified in its State of California License No. 2851-07 and 10 CFR 150.20(b).

II

An inspection of the Licensee's activities was conducted on June 16 and July 1-2, 1992. The results of this inspection indicated that the Licensee had not conducted its activities in full compliance with NRC requirements. A written Notice of Violation and Proposed Imposition of Civil Penalties (Notice) was served upon the Licensee by letter dated September 2, 1992. The Notice states the nature of the violations, the provisions of the NRC's requirements that CTI violated, and the amount of the civil penalties proposed for the violations. CTI responded to the Notice in a letter dated October 6, 1992.

In its response, the Licensee admits two violations of NRC requirements, one for failure to use separate personnel alarm ratemeters with a preset alarm of

500 mR/hr, and the second for failure to post a high radiation area during radiography operations. The Licensee questions the validity of a third violation for failure to conduct complete circumferential radiation surveys of an exposure device. The Licensee admits that a demonstration survey by its radiographer did not comply with the requirement for complete circumferential surveys, but questioned whether the radiographer's survey and statements to the inspector were representative of actual survey practice. CTI submits the following arguments in protesting the severity level and amount of civil penalties proposed:

1. CTI questions the NRC's application of the examples in Supplement I (Reactor Operations), Appendix C, 10 CFR Part 2, to Violations I.A. and I.B. in the Notice.
2. CTI objects to NRC's characterization of Violations I.A and I.B as indicating CTI's lack of attention or carelessness toward licensed responsibilities.
3. CTI asserts that it intended to operate its radiography program in a safe manner and to comply with all State and Federal regulations. The Licensee claims this was demonstrated by its candor and integrity during the NRC inspection, and by its performance, based on past inspections conducted by the State of California, which had indicated no significant safety problems to warrant civil penalties of the magnitude assessed by NRC. CTI relies upon a letter dated September 8, 1992, from Mr. Edgar Bailey, Chief of the California

Radiologic Health Branch, to the NRC Office of State Programs, in support of its position that the severity of violations does not merit the amount of civil penalties imposed.

### III

After consideration of the Licensee's response and the statements of fact, explanation, and letter of protest contained therein, the NRC staff has determined, as set forth in the Appendix to this Order, that the violations occurred as stated and that the penalties proposed for the violation designated in the Notice should be imposed.

### IV

In view of the foregoing and pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205, IT IS HEREBY ORDERED THAT:

CTI, Inc., pay civil penalties in the amount of \$12,500 within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555.

The Licensee may request a hearing within 30 days of the date of this Order. A request for a hearing should be clearly marked as a "Request for an

Enforcement Hearing" and shall be addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555. Copies also shall be sent to the Assistant General Counsel for Hearings and Enforcement at the same address and the Regional Administrator, NRC Region V, 1450 Maria Lane, Walnut Creek, California, 94596.


If a hearing is requested, the Commission will issue an Order designating the time and place of the hearing. If CTI fails to request a hearing within 30 days of the date of this Order, the provisions of this Order shall be effective without further proceedings. If payment has not been made by that time, the matter may be referred to the Attorney General for collection.

In the event the Licensee requests a hearing as provided above, the issues to be considered at such hearing shall be:

(a) whether the Licensee was in violation of the requirement for complete circumferential surveys of the exposure device, and

(b) whether, on the basis of such violation and the additional violations set forth in the Notice of Violation that the Licensee admitted, this Order should be sustained.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

  
Hugh L. Thompson, Jr.  
Deputy Executive Director for  
Nuclear Material Safety, Safeguards  
and Operations Support

Dated at Rockville, Maryland  
this 1st day of December 1992

## APPENDIX TO ORDER IMPOSING CIVIL PENALTIES

On September 2, 1992, a Notice of Violation and Proposed Imposition of Civil Penalties (Notice) was issued for violations identified during an NRC inspection. CTI, Inc. (CTI) responded to the Notice on October 6, 1992 in a "Reply to a Notice of Violation..." (Reply).

In its reply, CTI admits two violations, one for failure to use required personnel alarm ratemeters and another for failure to post a high radiation area, questions the violation for failure to perform a full circumferential survey of the exposure device, and protests the severity level and magnitude of the civil penalties proposed. The NRC's evaluation and conclusion regarding the Licensee's response is as follows:

### Restatement of Violation I.A.

10 CFR 34.33(a) and (2) require, in part, that the licensee not permit any individual to act as a radiographer or a radiographer's assistant unless, at all times during radiographic operations, the individual wears an alarm ratemeter set to give an alarm signal at a preset dose rate of 500 mR/hr.

Contrary to the above, on June 15-16, 1992, at Moffett Field, California, licensee radiographers did not wear alarm ratemeters set to give an alarm at a preset dose rate of 500 mR/hr while conducting radiographic operations.

### Summary of the Licensee's Response to Violation I.A.

CTI admits that the use of alarming survey meters set at 8 and 80 mR/hr during licensed radiography did not comply with the requirement in 10 CFR 34.33(f)(2) for alarming ratemeters set at 500 mR/hr. CTI states that it had intended to comply with 10 CFR 34.33(a), by assigning to each person, personnel monitoring equipment consisting of a survey alarm meter with a belt clip, a direct reading pocket dosimeter and a film badge.

### NRC Evaluation of the Licensee's Response to Violation I.A.

The Licensee admits the violation for using personnel alarm rate meters without a preset alarm of 500 mR/hr. Also, CTI's use of survey meters with a built-in audible alarm did not comply with 10 CFR 34.33(a). "Survey meters with audible alarms do not provide the same redundancy that separate alarm ratemeters do, primarily because the alarm is connected to the survey meter output and if the survey meter fails, so does the audible alarm." Statements of Consideration, Safety Requirements for Industrial Radiographic Equipment, 55 Federal Register 843, 850 (January 10, 1990).

### Restatement of Violation I.B.

10 CFR 34.43(b) requires, in part, the licensee to perform a survey with a calibrated and operable radiation survey instrument after each radiographic exposure to determine that the sealed source has been returned to its shielded position. The survey must include the entire circumference of the radiographic exposure device and any source guide tube.



Contrary to the above, on June 16, 1992, at Moffett Field, California, a licensee radiographer did not perform an adequate survey after each radiographic exposure to determine that the sealed source has been returned to its shielded position, in that the survey did not include the entire circumference of the radiographic exposure device.

Violations A and B above constitute a Severity Level III problem (Supplements IV and VI). Cumulative Civil Penalty - \$5,000 assessed equally between the two violations.

#### Summary of the Licensee's Response to Violation I.B.

CTI states that the violation "... is not based on direct observation but rather on observation of a requested demonstration survey and subsequent questioning by the NRC inspector." Although the Licensee agrees that the survey as demonstrated by the radiographer did not fully comply with 10 CFR 34.43(b), CTI questions the violation's validity by raising the possibility that the demonstration survey and statements made by the radiographer to the inspector "... reflect a response to a perceived intimidating interrogation rather than his actual practice." The Licensee supports its conclusion by stating that prior and subsequent CTI field audits demonstrated that the radiographer routinely performs surveys in full compliance with 10 CFR 34.43(b).

#### NRC Evaluation of the Licensee's Response to Violation I.B.

NRC disagrees with CTI's suggestion that no violation may have occurred. Immediately following termination of CTI's operations at the job site, the inspector specifically asked the radiographer to demonstrate with a survey meter how he had conducted his survey of the exposure device after the two previous source exposures. The radiographer's simulated survey included only the left side and front of the exposure device near the source tube connector. The inspector then questioned the radiographer to determine if the survey as demonstrated was the same as those he had just conducted following the two previous source exposures. The radiographer replied that the surveys were the same and typical of those he routinely conducts during radiography. The radiographer indicated his desire to be truthful, while admitting that the surveys he routinely conducted were "shortcuts" to full circumference surveys but were adequate to detect an unshielded source. When the radiographer was questioned again by the inspector two weeks later at CTI's office, the radiographer confirmed that he had not performed the required full circumference surveys.

#### Restatement of Violation I.C.

10 CFR 34.42 requires, notwithstanding any provision in 10 CFR 20.204(c), that areas in which radiography is being performed be conspicuously posted as required by 10 CFR 20.203(c)(1).

10 CFR 20.203(c)(1) requires that each high radiation area be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words "CAUTION HIGH RADIATION AREA."

Contrary to the above, on June 16, 1992, at Moffett Field, California, the licensee did not post the high radiation area in which industrial radiography was being performed.

This is a Severity Level III violation (Supplements IV and VI).  
Civil Penalty - \$7,500.

#### Summary of the Licensee's Response to Violation I.C.

CTI admits that the high radiation area was not posted as required but argues that CTI radiographers had exercised other radiation safety controls over the job site, demonstrating that the failure to post the high radiation area was not an "intentional or premeditated disregard" for posting requirements. CTI states that these actions included posting and monitoring the perimeter of the controlled area, constant visual surveillance of the radiation area and high radiation area, and advance notice to NRC and to site personnel of radiographic operations and other actions.

#### NRC Evaluation of the Licensee's Response to Violation I.C.

The Licensee admits not posting the high radiation area as required by 10 CFR 20.203(c)(1) and 10 CFR 34.42. The actions cited by CTI as examples of its controls to prevent access to the radiation and high radiation areas are required by NRC in addition to, and not as a substitute for, the separate requirement to post the high radiation area. Such posting was especially necessary in this case because of the presence of other non-radiography contractor personnel inside the posted restricted area boundary and their potential access to the high radiation area while the radioactive source was exposed.

The NRC labelled this violation as willful based on the radiographer's careless disregard for NRC requirements. There was no NRC conclusion of an intentional or premeditated violation. The Licensee has provided no basis to revise this conclusion. Both CTI radiographers at the site admitted their decision to continue with radiography without posting the high radiation area after they found high radiation area warning signs missing from the CTI truck. The radiographers acknowledged that they were aware of the requirement for, and normally post, such signs but added that visual surveillance and the posting of the fenced restricted area boundary with radiation area warning signs was sufficient. The decision by the radiographers not to post and instead to rely on surveillance and lesser posting actions constituted a careless disregard for NRC posting requirements.

#### Summary of Licensee's Request for Mitigation

Although CTI does not specifically request remission or mitigation of the civil penalties proposed, it protests the severity level and amount of the penalties with the following arguments:

1. CTI questions the NRC's application of 10 CFR Part 2, Appendix C, Supplement I (Reactor Operation), to Violations I.A. and I.B.



2. CTI objects to NRC's characterization of Violations I.A and I.B based on 10 CFR Part 2, Appendix C, Supplements IV and VI, as a "potentially significant lack of attention or carelessness toward licensed responsibilities." The Licensee acknowledges administrative problems with documentation in its radiation safety program but maintains that such problems and subsequent corrective actions did not constitute carelessness toward licensed responsibilities.
3. CTI asserts a willingness to operate its radiography program in a safe manner and to comply with all State and Federal regulations. The Licensee claims that this intent was demonstrated by its conduct and integrity during the current NRC inspection and in past inspections conducted by the State of California, which had indicated no significant safety problems that would warrant civil penalties of the magnitude assessed by NRC. CTI relies upon a letter dated September 8, 1992, from Mr. Edgar Bailey, Chief of the California Radiologic Health Branch, to the NRC Office of State Programs, in support of its position that the severity of violations does not merit the amount of civil penalties imposed.

#### NRC Evaluation of Licensee's Request for Mitigation

NRC addresses CTI's arguments in the order presented above.

1. The reference in Section I of the Notice to Supplement I was a typographical error and was intended to reference Supplement IV (Health Physics). No mitigation is warranted based on this error.
2. NRC disagrees with CTI's claim that Violations I.A and I.B did not represent a significant lack of attention or carelessness toward licensed responsibilities. Most, if not all, of the NRC-identified violations could have been prevented had Licensee management devoted sufficient attention and effort to its program to ensure compliance with NRC and State license requirements. Deficiencies in the licensed program were known at the management level by early 1992. When the Radiation Safety Officer (RSO) terminated employment, a new RSO was designated, but other duties prevented him from making the needed administrative improvements. Consequently, the licensed program lacked adequate oversight, compliance with program requirements was delayed, and the program continued to deteriorate until the NRC inspection.

The three violations were assessed civil penalties in accordance with the NRC's Policy and Procedure for Enforcement Actions, 10 CFR Part 2, Appendix C (57 Federal Register 5791, February 18, 1992) (Enforcement Policy). The failures to perform a proper radiation survey and to wear proper personnel monitoring devices, as required by 10 CFR Part 34, would normally have been classified as separate Severity Level III Violations with separate civil penalties in accordance with the Enforcement Policy (Supplement IV, Example C.4 and Supplement VI, Example C.8). However, in this instance, the NRC did not consider that the safety significance of the violations warranted separate penalties. Accordingly, two violations were combined as a Severity Level III problem, as permitted by Section

IV.A of the Enforcement Policy, because they were both caused by a lack of adequate attention or carelessness toward licensed responsibilities on the part of CTI management and the radiographer. Specifically, CTI management was aware of the requirements for alarm rate meters, had purchased the instruments, could not locate them for the job, and yet made the decision to conduct the radiography without equipment that fully satisfied NRC requirements. Similarly, the radiographer acknowledged that he had been trained on, and had knowledge of, the required survey techniques, yet he indicated that he typically did not perform them as specifically required by the NRC. Collectively, these decisions represent a significant regulatory concern because we cannot accept decisions by a Licensee or its personnel to employ lesser safety precautions as an acceptable alternative to compliance with the NRC requirements.

The violation involving the failure to post a high radiation area was escalated from a Severity Level IV to a Severity Level III violation, in accordance with Section IV.C. of the Enforcement Policy, because the CTI radiographers willfully violated the NRC requirement for posting (careless disregard being a form of willfulness).

3. NRC recognizes the Licensee's candor and cooperation during the inspection. The NRC relies upon, and expects, licensees to be accurate and forthright in providing information to the NRC to ensure that licensed materials do not endanger public health and safety. Although CTI expresses its intent and strong desire to operate in a safe manner and to comply with NRC regulatory and license requirements, such intent and desire do not provide a basis under the Enforcement Policy for mitigating a civil penalty or for reducing the severity level of a violation. Instead, the Enforcement Policy provides for escalation of the severity level of a violation which is willful, either because of deliberateness or careless disregard (Section IV.C). NRC's review of the results of inspections of CTI by the State of California during the past 5 years indicates that several significant violations had been identified and that CTI's overall performance was no better than average. Furthermore, the independent audit contracted by CTI following the NRC inspection, and included as an attachment to the Licensee's October 6, 1992 letter, disclosed several radiation safety program deficiencies resulting from the lack of adequate attention to licensed responsibilities. The letter from the State of California does not address the application of the NRC Enforcement Policy to this enforcement action nor provide a basis for mitigation of the civil penalties for the violations. The NRC Enforcement Policy applies to licensees performing activities in NRC jurisdiction. NRC does not agree with the observations concerning severity levels.

#### NRC Conclusion

The NRC has concluded that the violations occurred as stated and that neither an adequate basis for a reduction in the severity level nor for mitigation of the civil penalties was provided by CTI, Inc. Consequently, the proposed civil penalties in the amount of \$12,500 should be imposed.