UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064

October 31, 1996

EA 96-232

CTI Alaska, Inc.
ATTN: George E. Haugen
4831 Old Seward Highway
Suite 107
Anchorage, Alaska 99503

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTIES - $13,000 (NRC Inspection Report No. 030-17129/96-01)

Dear Mr. Haugen:

This refers to the inspection completed by the NRC on July 2, 1996, at your facility in Anchorage, Alaska. This was a special inspection which included a review of circumstances relating to the December 23, 1995, event involving an inadvertent exposure of a radiographer and potential malfunction of a radiographic exposure device. Your Radiation Safety Officer (RSO) informed the NRC of the event on December 28, 1995, and the NRC subsequently conducted the special inspection. The issues were discussed with you during an interim briefing on January 23, 1996, and a telephonic exit briefing on July 2, 1996. A predecisional enforcement conference was held with you in the NRC Region IV office in Arlington, Texas, on August 6, 1996.

Based on the information developed during the inspection, the information that you provided during the conference, and the information that you provided in your letters dated July 31, August 8, and September 6, 1996, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalties (Notice) and the circumstances surrounding them are described in detail in the subject inspection report.

The exposure event began during the night shift of December 23-24, 1995, when a safety latch inside the locking mechanism of an INC Model IR-100 exposure device failed to secure the source assembly in a fully shielded position after the source was retracted into the device. (Concerns about the radiographic device were addressed with the manufacturer.) Since the radiographer (the more senior of the two on the job) failed to conduct an adequate survey because the survey instrument was not initially operable, and failed to adequately check his alarm ratemeter prior to use, he was not aware that the source was not fully retracted. As a result, he received an excessive exposure, but not an overexposure. After recognizing that he was exposed to the source, the radiographer left the area and found that his pocket dosimeter was off-scale. Instead of stopping work and immediately notifying the CTI RSO or other appropriate personnel, the radiographer kept doing other work related to the job. At the end of the night shift, on the morning of December 24, the radiographers informed their supervisor of the event. When he found out the Radiation Safety Administrative Assistant (RSAA) was out of town, the supervisor did not try to reach other company officials, but instead waited until December 26, to notify the RSAA, who promptly notified the CTI RSO. It

wasn't until December 27 that the radiographer's film badge was sent to the badge supplier for processing.

The first four violations in the Notice are: (1) a radiographer's failure to adequately survey the radiographic device to determine that the sealed source had been returned to its shielded position (Violation I.A.1); (2) a radiographer's failure to check the operability of his alarm ratemeter prior to use at the start of the shift (Violation I.A.2); (3) radiography personnel failures to immediately notify the RSO or other designated managers about the potential malfunction of a radiographic exposure device and the off-scale discharge of a pocket dosimeter (Violation I.A.3); and (4) CTI's failure to immediately send for processing a radiographer's film badge, after his pocket dosimeter discharged beyond its range (Violation I.A.4).

Violations I.A.1 and I.A.2 are significant because they represent two breached safety barriers that are designed to prevent overexposures to radiographers and the public. Violations I.A.3 and I.A.4 are also significant because they resulted in a delay in CTI's notifications and response to the incident. In total, these represent a very significant regulatory concern. Therefore, these violations are classified in the aggregate in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level II problem.

In accordance with the Enforcement Policy, a civil penalty with a base value of $8,000 is considered for a Severity Level II problem. The NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. The violations were essentially revealed through an event. In addition, CTI demonstrated a low degree of initiative in investigating the root cause of the violations. Specifically, at times during the inspection, information was developed as a result of the NRC's questioning. Based on the ease of discovery of the violations following the event, and CTI's low degree of initiative in identifying the root cause of the violations, the NRC has determined that no credit for *Identification* is warranted. However, the NRC has determined that credit for the *Corrective Action* factor is warranted. CTI's actions included, but were not limited to, disciplinary action against the involved radiographers, improved emphasis on reporting of incidents by employees and supervisors, posting safety memos regarding the incident, increased frequency of safety audits, additional training on the INC Model IR-100 exposure device, assignment of a new safety coordinator and a field operations manager to the BPX project, revised operating procedures and physical enhancements related to the use of the INC Model IR-100 exposure device, emphasized the consequences of noncompliance with NRC requirements, and increased audit frequency. Therefore, the civil penalty assessed for these violations is the base value of $8,000.

The next two violations identified in the Notice involved your employees' failure to post a high radiation area (Violation I.B.1) and to maintain accurate records in that the "Daily Radiation Job Sheet" indicated that a high

radiation area was posted when it had not been posted (Violation I.B.2). A radiographer told an NRC inspector that, although he knew that high radiation area signs were required, a high radiation area posting had not been used and that he had marked the CTI form to indicate that the posting was used so that he would not get in trouble.

These violations, which appear to be willful, are of significant regulatory concern because the conduct of licensed activities depends in large part on the integrity of the individuals conducting such activities. In this case, the radiographers' action were of particular concern because they are responsible to CTI for assuring compliance with the requirements of the Commission's regulations and the conditions of the license. Therefore, these violations are classified in accordance with the Enforcement Policy as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of $5,000 is considered for a Severity Level III problem. Because the violations involve willfulness, the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy. In this case, the NRC has determined that no credit for *Identification* is warranted, because the NRC inspector identified this violation. However, NRC has determined that credit for the *Corrective Action* factor is warranted based on the actions described above. Therefore, the civil penalty assessed for these violations is the base value of $5,000.

To emphasize the importance of compliance with radiation safety procedures, the unacceptability of willful violations, and prompt identification of violations, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice in the amount of $13,000 for the Severity Level II and Severity Level III problems described above.

The last violation described in the Notice involved the failure to complete and submit written reports in accordance with CTI's procedures. Specifically, CTI personnel did not complete and submit written reports to the RSO within 8 hours after two separate events involving potential malfunctioning INC Model IR-100 radiographic devices. The two events occurred on January 9, 1996, and the reports were not completed and submitted until February 9 and 15, 1996. This violation is classified in accordance with the Enforcement Policy as a Severity Level IV violation, and is cited in the enclosed Notice.

We have noted, with some concern, CTI's statements in its letter dated July 31 and September 6, 1996, regarding these violations, specifically attributing the root cause to complacency and indifference towards safety by two radiographers. You reiterated this at the August 3, 1996, predecisional enforcement conference. We note, however, that not all violations were related to the actions of two radiographers. A CTI supervisor failed to immediately notify the RSAA or other appropriate CTI managers on December 24, 1995, and CTI management failed to promptly send the dosimeter for processing.

In addition, the violations in Section II of the notice, which occurred about 2 weeks after violations described in Section I, involved different employees but similar circumstances (i.e., lock mechanism problems on exposure devices for which required reports were not promptly completed and submitted).

Regarding the violations committed by the radiographers, we emphasized to you at the conference that we hold licensees responsible for the actions of their employees. All licensed activities are carried out by employees and, therefore, all violations are committed by employees. The licensee obtains the benefits of an employee's good performance and suffers the consequences of their poor performance. While we are concerned about the performance of your former employees, and in fact by separate correspondence plan to put them on notice that willful violations in the future may result in significant action against them, we do not intend to pursue any further the matters discussed in your letter dated September 6, 1996.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. You may reference your previous letters if the information in those previous letters accurately reflects your position. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be placed in the NRC Public Document Room (PDR). To the extent possible, your response should not include any personal privacy or proprietary information so that it can be placed in the PDR without redaction.

Sincerely,

/for/ L. J. Callan
Regional Administrator

Docket No. 030-17129
License No. 50-19202-01

Enclosure: Notice of Violation and
Proposed Imposition of Civil Penalties

cc (w/enclosure):
Alaska Radiation Control Program Director

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