



CTI Alaska, Inc.

Facsimile Lead Sheet

DATE: 04 / 02 / 97

ATTENTION: Beth Prange
COMPANY: U.S. Nuclear Regulatory Commission, WCFO
LOCATION: 1450 Maria Lane, Suite 210, Walnut Creek, CA 94596-5368
TELEPHONE: (510) 975-0250 FAX NO.: (510) 975-0381
FROM: Sandy N. Watson, RSO

CTI Alaska, Inc.
4831 Old Seward Highway, Suite 107
Anchorage, Alaska 99503

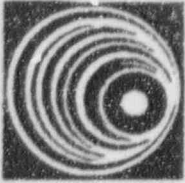
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COMMENTS: Letter to NRC dated 03-27-97

Application for Exemption, 10 CFR 34.51

Confidence Through Inspection



March 27, 1997

CTI
ALASKA

U. S. Nuclear Regulatory Commission
WCFO
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

Attention: Frank Wenslawski, Branch Chief

Subject: Application for Exemption, 10 CFR Part 34.
License number 50-19202-01

Gentlemen:

Please be advised that CTI Alaska, Inc. is dropping its request for Technical Assistance; control No. 572220, dated August 31, 1995, exemption to use braided copper source exposure tubes.

*Confidence
Through
Inspection*

However, CTI Alaska, Inc. requests that the NRC grant an exemption to the rules stated in Part 34.20 "Performance requirements for radiography equipment," whereby it refers to modification of exposure devices and associated equipment such as the source guide tubes.

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We assume that "associated equipment" means that components such as the source guide tubes be part of an approved system. As Part 34.20 does not specifically address mixing of components, such as source guides, from one approved radiographic system to another, this is the reason for our asking for an exemption, if there is in fact a requirement to do so in this case.

CTI Alaska has two (2) models of radiographic systems (Amersham 660B and INC IR-100) that fall within the guidelines of Part 34.20. We are using the devices as an approved system and are not mixing associated equipment since we assign the same model devices and associated equipment to each facility and to long term projects.

As ANSI N432 does not require low temperature testing of the devices or associated equipment, it has left CTI Alaska and its radiographic operations in



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Alaska, which works in harsh arctic winter conditions approximately eight (8) months of the year, with a very real documented problem of source guide tubes continuously cracking and breaking. We believe this should be included as a safety design feature of the approved source guide tubes as the continual cracking and breaking compromises safety and is dangerous to radiographers and is also very expensive. All of our source guide tubes have experienced cracking, some have even been covered with arctic shrink tubing. We have purchased approximately one (100) hundred source guide tubes this past year to support an average of nine (9) exposure devices utilized on a daily basis.

We believe we have identified a remedy to this particular problem. If we are granted an exemption to utilize source guide tubes from a manufacturer of different exposure devices which meet the requirements of N432 and is specifically designed for use in winter weather and remains pliable during very low temperatures, this then would be the solution to our problem.

The nomenclature of this source guide tube is as follows (as is currently known):

Manufacture	- Source Production & Equipment Company 113 Teal Street St. Rose, Louisiana 70087
Part Number	- 228007
Description	- Heavy duty 7' Low temperature source tube T.O. with threaded end caps; 3/4" diameter tube; steel with cover of black soft rubber (In appearance); heavy duty brass fittings.
SPEC Contact	- Kenny Carrington
Telephone	- (504)464-9471

Mr. Kenny Carrington of SPEC has stated that he will get us manufacturing data and a copy of their submittal to the state of Louisiana for testing of their winter designed source guide tube and connectors to ANSI N432 requirements.

This request for exemption is based upon the following operational particulars:

a) CTI Alaska performs radiography in the state of Alaska with work being performed in outside ambient air temperature that approach -60 degrees F. When combined with wind, the resulting chill effect on equipment can exceed -100 degrees.



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b) As a result of such extreme temperature conditions CTI Alaska has found that the approved source guide tube materials literally freeze in position when used in this environment, even when used for short periods of time. The tubes will then crack or split when attempts are made to reposition the tube or roll the material up for storage. Cracking of the tubes allows melted snow to enter the guide tube and then can form ice plugs that could effect safe travel of the source. This causes unnecessary exposures to the radiographers because of work stoppages and could cause source hang-ups within the source guide tube.

c) Current ANSI N432 approved source guide tubes that are available in systems other than SPEC's winter design have not proven effective in harsh winter conditions.

d) The SPEC 228007 source guide tube appears to be a very heavy duty constructed component.

e) CTI has experienced much less of a problem with crank control tubes as they are different in materials utilized and the number of plies used in construction and has a smaller inside diameter.

We have tested this source guide tube utilizing one of our training (Dummy) exposure devices along with the standard source guide tubes and have noted that the SPEC tube remains flexible through various operating temperature ranges thus allowing safer radiography in the inclement working conditions that CTI Alaska, Inc. encounters.

We also noted that the SPEC guide tube end piece threads match and the heavy duty design is very rugged and it is compatible to the Amersham 660B and the INC IR-100 exposures devices. This source guide tube does not compromise safety as it meets the requirements of ANSI N432, is compatible to the Amersham 660B and the INC IR-100 devices, and appears to be better designed.

We therefore request an exemption from the aforementioned requirements and request approval to utilize the SPEC 228007 source guide tube with Amertest 660B and the Industrial Nuclear Company IR-100 exposure device systems.

Stated below are apparent reasons why CTI would expect serious consideration by the NRC to grant our exemption:



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- a) Safety to our radiographers and the public in which it would;
 - Reduce unnecessary exposures to our radiographers and assistant radiographers
 - Reduce possible source hang-ups
- b) Increase production for our clients;
 - Eliminate work stoppages to replace equipment
- c) It would make it much easier to teach good radiographic safety practices if we could provide radiographers with the safest components available;
 - Promote employee trust in the fact that CTI is willing to pay for the best equipment available and that the NRC allows its licensees to use the safest equipment possible.
- d) Save on total costs of source guide tubes even though they cost more on an individual basis;
 - Approximately one hundred (100) purchased in 1996.
- e) Information Notice 95-58 states "Exemptions to 10 CFR 34.20 may be considered only for limited special or unique cases where the licensee can demonstrate that the engineered safety features, use limitations, and procedures would compensate for not meeting the requirements and afford similar or increased radiation safety protection";
 - we have discussed extreme temperatures which create unique problems, the fact that no source guide tubes have been available that required testing for low temperature, the fact that there is a source guide tube available that meets ANSI N432 and is designed for low temperature usage and appears to be more rugged in construction, and would reduce exposures to our radiographers and is needed for radiation safety.
- f) Part 34.20, b, (3) states "Modification of any exposure devices and associated equipment is prohibited, unless the design of any replacement component, including



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source holder, source assembly, controls or guide tubes would not compromise the design safety features of the system";

- we have discussed the fact that the SPEC source guide tube is compatible to the Amersham 660B and the INC IR-100 exposure devices, would not compromise the design safety features of the systems, and would increase radiation safety.

Should additional information or clarification be needed, please contact the writer.

Thank your very much for your consideration of our request.

Sincerely,

A handwritten signature in cursive script that reads "S. N. Watson".

Sandy N. Watson
Radiation Safety Officer

Encl: Copy/photo of SPEC tube

CC: G.E. Haugen
K.E. Remele
R.N. Fox
J. Arveson
M. Thorne/F. Noble
T. Karnowski
RSO File
rReLiCeN

SOURCE PRODUCTION & EQUIPMENT COMPANY

GUIDE TUBE 228007

