UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

OFFICE OF THE
GENERAL COUNSEL

February 3, 1998

Clifton A. Lake, Esq.
McBride Baker & Coles
500 West Madison Street, 40th Floor
Chicago, Illinois 60661-9350

In the Matter of
Conam Inspection, Inc
Itasca, Illinois (License No. 12-16559-01)
(Order Imposing Civil Monetary Penalty)
Docket No. 30-31373-CivP

Dear Mr. Lake:

This refers to your E-Mail letter to the Licensing Board dated January 23, 1998, wherein you requested from the Staff the Exhibits to Report of Investigation Conam Inspection, Inc., Case Number 3-96-014. The Licensing Board in a telephone conference held on January 14, 1997, requested that the Staff provide it with the Investigation Report cited *supra*. The Staff did so by letter dated January 15, 1998, a copy of which was sent to you. Subsequently, we have reviewed the exhibits to that report and have determined that they can be released in redacted form. Copies are attached.

For your future reference, I wish to call your attention to 10 C.F.R. § 2.744 (a), which requires that requests for the production of an NRC record or document not otherwise available be directed to the Executive Director for Operations. You should send any such requests to me as counsel for the Staff. Your request should explain why the requested documents are relevant to the proceeding. Only if the Executive Director for Operations declines to produce requested documents is it appropriate for you to make such request of the Licensing Board.

Respectfully submitted,

Charles A. Barth
Counsel For NRC Staff

Enclosure: As stated

cc w/enclosure: Service list

SECY-EHD-001

D503

18780

EXHIBIT 1

CASE NO. 3-96-014

Case No.: 3-96-014 Facility: CONAM INSPECTION

Allegation No.: RIII-96-A-0046 Case Agent: ANDERSON

Docket No.: 030-31373 Date Opened: 04/08/96

Source of Allegation: ALLEGER (A)

Notified by: OAC (FUNK) Priority: HIGH (Coordinated with the RIII management staff)

Category: OR/LC Case Code: MN

Subject/Allegation: ALLEGED FALSE INFORMATION TO NRC

Remarks:

Monthly Status Report:

04/08/96: On March 26, 1996, a concerned individual (CI) reported to the NRC that a CONAM worker had calibrated survey instruments while not wearing a dosimeter. The alleger also said that the worker had not been trained in calibration procedures. The CI reported this to management and was told "not to worry about it." A subsequent NRC inspection determined that the worker was not qualified to calibrate survey meters and was not wearing a dosimeter. During the inspection the lab supervisor claimed the worker was under his direct supervision and merely acted as a scribe. However, an interview of the shop foremen indicated that the lab supervisor only spent several minutes in the storage area with the worker and returned to the office. The worker returned to the office an hour later. Also during the inspection, it was determined that an over exposure occurred on February 27, 1996, caused by the radiographer bypassing the procedure requiring the source be retracted and locked after each exposure. The radiographer said that none of the other radiographers secure the camera after each exposure as required by the licensee's procedures.

EXHIBIT 1

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SEND 96-014 1

EXHIBIT 2

MEMORANDUM FOR: Donald Funk, Allegations Coordinator

THRU: B. J. Holt, Chief, Nuclear Materials Inspection Branch 1 3/27/96

FROM: Michael LaFranzo, Radiation Specialist ml 3/27/96

SUBJECT: INDIVIDUAL CALIBRATING SURVEY INSTRUMENTS WITHOUT TRAINING OR FILM BADGE

On March 26, 1996, a concerned individual reported that Individual A employed at Conam Inspection Incorporated (see attachment for address, license and docket number) in Gary, Indiana did not have the appropriate training for the calibrating survey instruments and was not using a film badge. The concerned individual (see attachment for name, address and telephone number) and three of his co-workers (identities unknown at this time) were made aware of this situation on or about Friday, March 22, 1996.

The concerned individual stated Individual A (see attachment for name) had calibrated three survey instruments using a radioactive source and did not have a film badge issued to the employee. In addition, the concerned individual believes Individual A may not be aware of calibration procedures for survey meters and was concerned that the three survey instruments "calibrated" by Individual A were not properly calibrated.

The concerned individual stated he contacted individual B, a management representative (see attachment for name), about the concern. According to the concerned individual, Individual B did not correct the situation and told the concerned individual "not to worry about it." The concerned individual then stated the he went "the next step" and contacted the NRC. The concerned individual stated he did not contact the Radiation Safety Officer.

According to the concerned individual, he contacted the NRC but was not sure if one or more of his co-workers would also contact the NRC about this same issue in the future.

The concerned individual requested identity protection and was informed regarding NRC identity protection policy.

Attachments: As stated

EXHIBIT 2

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CASE NO. 3-96-014

EXHIBIT 3

DATE: April 4, 1996

MEMO TO: FILE AN... NO. RIII-96-A-0046

FROM: Thomas Young, Radiation Specialist
Nuclear Materials Inspection
Branch 2
DNMS, RIII

SUBJECT: CONAM INSPECTION

RE: Referrals to Office of Investigation

On March 28 and April 2, 1996, the routine, unannounced safety inspection of Conam Inspection was undertaken by myself and Geoff West. During the inspection, we evaluated Concern Nos. 1, 2, and 3. On March 28, 1996 we interviewed Individual B who is the Laboratory Supervisor and facility Radiation Safety Officer for the licensee's Gary, Indiana, permanent field office. On April 2, 1996, we interviewed the shop foreman who was present in the office on the date that survey meters were calibrated by Individuals A and B. The Concerned Individual and Individual A were not available on the dates of inspection and have not been interviewed. We observed the calibration stickers placed on three survey meters. The stickers indicated that the instruments were calibrated on March 14, 1996, by Individual A. We observed calibration certificates that were filed in the licensee's records pertaining to the survey meters. The certificates appeared to be completed by Individual A, and were signed and dated March 14, 1996, by Individual A.

Regarding Concern No. 1, Individual B indicated that because Individual A was not a radiographer or radiographer's assistant, the survey meters were calibrated under Individual B's direct supervision, i.e. Individual A recorded the information as given by Individual B as each survey meter was calibrated. The two individuals worked together while calibrating the instruments. The shop foreman indicated a different version of the circumstances. The shop foreman observed that Individual B asked Individual A to calibrate survey meters. Individuals A and B went to the shop with the files and paperwork necessary to document the calibrations. Individual B returned to the office within several minutes. Individual A returned to the office within about one hour with the completed paperwork and files. The shop foreman observed that Individual B was not with Individual A during the one hour period when the survey meters were calibrated. Alleged false Info to NRC.

Regarding Concern No. 2, Individual B confirmed that Individual A did not wear a film badge during the calibration of the survey meters. Individual B indicaated that Individual A was not issued a film badge by the licensee's Gary, Indiana, field office, or any other field office because Individual A does not use radiation sources and does not need a film badge.

Regarding Concern No. 3, the inspectors did not interview the Concerned Individual or Individual A because they were not available on the dates of inspection. Also, the inspectors did not ask Individual B if a concern about safety had been expressed by anyone at the time of the calibrations.

DNMS recommends that OI further evaluate these concerns during their pending investigation of these matters.

EXHIBIT 3

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EXHIBIT 4

NRC FORM 374
(10-89)

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Amendment No. 06
CORRECTED COPY

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Conam Inspection 1245 W. Norwood Itasca, IL 60143	In accordance with letter dated November 15, 1994 3. License number 12-16559-01 is amended in its entirety to read as follows:- 4. Expiration date August 31, 1998 5. Docket or Reference No. 030-31373

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Cobalt-60	A. Sealed Sources (Amersham Model 571)	A. No single source to exceed 15 millicuries
B. Cesium-137	B. Sealed Sources (Gulf Nuclear Model CSV)	B. No single source to exceed 300 millicuries
C. See Condition 10.	C. Sealed Sources	C. See Condition 10.
D. Cesium-137	D. Sealed sources (Troxler Dwg. No. A-102112)	D. No single source to exceed 10 millicuries
E. Americium-241	E. Sealed sources (Troxler Dwg. No. A-102451)	E. No single source to exceed 50 millicuries
F. Iron-55	F. Sealed sources (Texas Nuclear Model 696-696863)	F. No single source to exceed 45 millicuries
G. Cadmium-109	G. Sealed sources (Texas Nuclear Model 696-696873)	G. No single source to exceed 5 millicuries
H. Americium-241	H. Sealed sources (Texas Nuclear Model 696-696803)	H. No single source to exceed 0.5 microcuries

EXHIBIT 4
PAGE 1 OF 8 PAGE(S)

COPY

MATERIALS LICENSE
SUPPLEMENTARY SHEET

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6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
I. Iron-55	I. Sealed sources (Amersham Model IEC.D1)	I. No single source to exceed 45 millicuries
J. Cadmium-109	J. Sealed sources (Amersham Model CUC.D1)	J. No single source to exceed 5 millicuries

9. Authorized Use:

A. For storage only.

B. For use in Gulf Nuclear Model IC-51 instrument calibration unit for calibration of the licensee's survey instrumentation.

C. For use in industrial radiography.

D. and E. For use in Troxler Model 3400 Series moisture/density gauges.

F. through H. To be used in a Texas Nuclear Corp. Model 9266 X-ray fluorescence analyzer.

I. and J. To be used in a Texas Nuclear Corp. Model 9277 metallurgist X-ray analyzer.

CONDITIONS

10. Sealed sources, exposure devices, and source changers authorized for use are as follows:

Isotope	Maximum Activity Per Sealed Source	Manufacturer's Name & Model No. of Sealed Source	Manufacturer's Name & Model No. of Exposure Device	Manufacturer's Name & Model No. of Source Changer
A. Iridium-192	100 curies	AMSHM A424-1, Ind. Nuclear 1, or SPEC T-1, T-1F, T-2 or T-2F	AMSHM 533	AMSHM 414, 500 SU or 650, Gamma Ind. C-10, Gulf Nuclear U-110A, SPEC C-1

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Isotope	Maximum Activity Per Sealed Source	Manufacturer's Name & Model No. of Sealed Source	Manufacturer's Name & Model No. of Exposure Device	Manufacturer's Name & Model No. of Source Changer
B. Iridium-192	100 curies	AMSHM 866 or 89913 Gamma Ind. B-8-t, Ind. Nuclear 5, SPEC B-16F	AMSHM Iriditron 520	AMSHM 500 SU or 650, Gamma Ind. C-10, Gulf Nuclear U-110A or SPEC C-1
C. Iridium-192	200 curies	AMSHM 89911, SPEC G-1 or G-3F	Gulf Nuclear 40V	Gamma Ind. C-10, Gulf Nuclear U-110A, or SPEC C-1
D. Iridium-192	200 curies	AMSHM A58101-8	AMSHM 616	None
E. Cobalt-60	75 curies	AMSHM A-424-8 or A-453-1 or Gamma Ind T-2-T	AMSHM 446	Gamma Ind. C-8
F. Cobalt-60	100 curies	AMSHM A-424-14	AMSHM 680	AMSHM 488 or 771 or Gamma Ind C-8
G. Cobalt 60	100 curies	AMSHM 36907 or Gamma Ind. B-6-G	AMSHM Multitron 151H	Gamma Ind. C-8
H. Iridium-192	100 curies	AMSHM A 424-9, Ind. Nuclear 7, RTS Technology 702, or SPEC T5, T5-F or T7-F	AMSHM 660, 660 System	AMSHM 650, Ind. Nuclear IR-50, RTS Technology 424, or SPEC C-1

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Isotope	Maximum Activity Per Sealed Source	Manufacturer's Name & Model No. of Sealed Source	Manufacturer's Name & Model No. of Exposure Device	Manufacturer's Name & Model No. of Source Changer
I. Iridium-192	100 curies	Ind. Nuclear 32, Gamma Ind. IN-1-A, or IN-1-T, AMSHM 87703, SPEC G-40, G-40F or G-40T	Ind. Nuclear IR-100	Ind. Nuclear IR-50, or Gamma Ind. C-10
J. Cobalt-60	100 curies	AMSHM A424-8	AMSHM 500	AMSHM 488, 770 or 771

11. Licensed material may be used at the following locations:

A. 4000 Lockbourne Road, Columbus, Ohio.

B. 2090 East 15th Avenue, Gary, Indiana.

C. 200 Henderson Drive, Sharon Hill, Pennsylvania.

D. River Road and Buttonwood Streets, Reading, Pennsylvania.

E. 6 Huron Drive, Natick, Massachussets.

F. 2 Millbury Street, Auburn, Massachusetts.

G. 784 Bay Street, Springfield, Massachusetts.

Licensed material also may be used at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.

Licensed material listed in Items 6.D. and 6.E. may be stored at the licensee's facilities located at 2 Millbury Street, Auburn, Massachusetts and may be used at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.

12. The Radiation Safety Officer for this license is Robert J. Slack.

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13. Licensed material shall only be used by, or under the supervision and in the physical presence of, individuals who have received the training described in application dated March 29, 1993 and letter dated July 22, 1993 and have been approved in writing by the Radiation Safety Officer. The licensee shall maintain records of individuals designated as users for five years following the last use of licensed material by the individual.

    Licensed material listed in Items 6.D. through 6.J. shall only be used by, or under the supervision and in the physical presence of Frank Peck or individuals who have successfully completed the manufacturer's training program for gauge users, have been instructed in the licensee's routine and emergency operating procedures and who have been designated by the Radiation Safety Officer.

14. A. Notwithstanding the periodic leak test required by 10 CFR 34.25(b), the requirement does not apply to radiography sources that are stored and not being used. The sources exempted from this test shall be tested for leakage before use or transfer to another person. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

    B. Sealed sources authorized for a use other than radiography shall be tested for leakage in accordance with 10 CFR 34.25.

15. The licensee is authorized to receive, possess, and use sealed sources of iridium-192 or cobalt-60 where the radioactivity exceeds the maximum amount of radioactivity specified in this license provided:

    A. Such possession does not exceed the quantity per source specified in Item 8 by more than 20% for iridium-192 or 10% for cobalt-60; and

    B. Records of the licensee show that no more than the maximum amount of radioactivity per source specified in this license was ordered from the supplier or transferor of the byproduct material; and

    C. The levels of radiation for radiographic exposure devices and storage containers do not exceed those specified in 10 CFR 34.21.

16. Pursuant to 10 CFR Part 40, "Domestic Licensing of Source Material," the licensee is authorized to possess, use, transfer, and import up to 999 kilograms of depleted uranium contained as shielding material.

17. Sealed sources containing licensed material shall not be opened by the licensee.

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18. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

19. The licensee shall maintain records of information related to decommissioning at the location listed in item 2 of this license as specified in 10 CFR 30.35(g) until this license is terminated by the Commission.

20. In addition to the possession limits in Condition 8, the licensee shall further restrict the possession of licensed material to quantities below the minimum limit specified in 10 CFR 30.35(d) for establishing decommissioning financial assurance.

21. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as specified by the certificate of registration referred to in 10 CFR 32.210.

B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.

C. In the absence of a certificate from a transferor indicating that a leak test has been made within 6 months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.

D. Sealed sources need not be leak tested if:

(i) they contain only hydrogen-3; or

(ii) they contain only a radioactive gas; or

(iii) the half-life of the isotope is 30 days or less; or

(iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or

(v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transferred to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

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21. (Continued)

E. The leak test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission in accordance with 10 CFR 30.50(b)(2), and the source shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region III, ATTN: Chief, Nuclear Materials Safety Branch, 801 Warrenville Road, Lisle, Illinois 60532-4351. The report shall specify the source involved, the test results, and corrective action taken.

F. The licensee is authorized to collect leak test samples for analysis by Troxler. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

22. When performing tests at temporary job sites, the authorized user shall not leave the moisture/density gauge unattended. Upon completion of tests the device shall be locked in the licensee's vehicle or a secure building to prevent unauthorized use, loss, or theft.

23. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license.

24. Each portable nuclear gauge shall have a lock or outer locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage, or when not under the direct surveillance of an authorized user.

25. Any cleaning, maintenance, or repair of the gauge(s) that requires removal of the source rod shall be performed only by the manufacturer or by other persons specifically licensed by the Commission or an Agreement State to perform such services.

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26. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Applications dated March 29, 1993, March 10, 1994; and

B. Letters dated July 22, 1993, April 14, 1994 and May 5, 1994.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date FEB 2 1995

By Deborah A. Patula
Materials Licensing Section, Region III

COPY

EXHIBIT 5

DATE: April 16, 1996

MEMO TO: Don Funk, AMS Coordinator
EICS

THRU: Monte Phillips, Chief
NMS Inspection Branch 2

FROM: Tom Young, Inspector

SUBJ: TELEPHONE NOTIFICATION FROM CONCERNED INDIVIDUAL

RE: CONAM INSPECTION, INC.

Don, the purpose of this memo is to identify the names of individuals and related facts that were received by telephone today. I presume that you will include this with the other issues involving the licensee.

The concerned individual, [redacted] is a radiographer assigned to the licensee's Gary, IN, permanent field office. He called to complain about falsification of records. He said he preferred that his name not be connected with this complaint, but if needed, it would be alright to identify him as the concerned individual.

On March 18, 1996, he and [redacted] another Conam radiographer, were working at UNO-VEN in Lemont, IL, when they received an instruction from their supervisor, Steve Fay, Site RSO. Mr. Fay told [redacted] that a 90 day safety and maintenance check was overdue on the exposure device they were using. He instructed [redacted] to complete the checks and not to worry about the paper work, it could be completed later. [redacted] wasn't sure if [redacted] actually completed the checks or not, because they weren't working side by side for the entire day. [redacted] later observed a record that was dated March 12, 1996, for the 90 day check of the exposure device. The exposure device involved is Amersham Model 660B, Serial No. B-2872, containing sealed source of iridium-192, serial no. A-6986.

[redacted] believes that the record was intentionally falsified by Steven Fay or someone under his direct supervision. [redacted] stated that he could be reached through his pager system by telephoning [redacted] I am awaiting a call from him as to his current mail address.

EXHIBIT 5

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CASE NO. 3-96-014

EXHIBIT 6

ALLEGATION ACTION PLAN
ALLEGATION NO. RIII-96-A-00[illegible]

Licensee: Conam Inspection

Docket/License No: 030-31373/12-16559-01

Assigned Division: DNMS

Attached Pertinent Documents: Memo dated March 27, 1996 To Don Funk, Thru B. J. Holt, From Michael LaFranzo

I. Division Action

A. Prepared by: Thomas Young Th Young — 4/4/96
Technical Staff — Date

B. Approved by: Monte Phillips — 4/4/96
Branch Chief — Date

II. Allegation Review Board Membership:

III. Remarks

-Tom Young-

Safety Significance: (HIGH) MEDIUM LOW NA

☒ Approved As Is

☒ Approved with Modifications as Documented in Plan.

☒ Disapproved for Following Reasons:

☒ Yes ☐ No OI Referral (Priority: (HIGH) NORMAL LOW)

CASE NO: 3-96-014

EXHIBIT 6

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Allegation Review Board Chairman — Date

EXHIBIT 7

Report of Interview
with
[redacted]

On Wednesday, May 22, 1996, [redacted] Radiographer's Assistant, Conam Inspection, Gary, Indiana, was interviewed by OI:RIII at Portage, Indiana.

[redacted] stated that he has been with Conam Inspection (Conam) for approximately [redacted] years. [redacted] stated that there were approximately eight radiographers and an equal number of radiographer's assistants at the Gary facility. He stated that he had worked with most of the radiographers.

[redacted] stated that the 90 day maintenance of a survey meter was usually done at the job site by the site supervisor. However, the 90 day calibration test was completed at the Gary office. [redacted] said that Steve FAY, Supervisor, or [redacted] Radiographer, were the ones who conducted the calibration.

[redacted] stated that [redacted] a Conam employee, was not trained nor certified to use any radiography equipment. [redacted] said that [redacted] also did not have a dosimetry badge issued to him. However, [redacted] noticed, on March 22, 1996, that the stickers attached to four separate meters, which certify that the meters had been calibrated, were signed by [redacted] [redacted] said that he checked the paper work that accompanied the meters, and they, too, had been signed by [redacted]

[redacted] said that [redacted] and [redacted] all radiographers, were also aware of [redacted] signing the calibration on the four meters. [redacted] said that he and [redacted] talked to FAY about [redacted] signing the calibration certification. FAY allegedly told them that he (FAY) did the calibration, and that [redacted] merely signed the forms under his (FAY) supervision. [redacted] said that he and the other radiographers discontinued using those meters with [redacted] signature.

[redacted] stated that he was aware of some radiographers who did not always lock the radiographic gauge or depress the plunger after each shot. He said that after the [redacted] incident, everyone was made aware by management in a memorandum re-emphasizing the proper use of the gauge. [redacted] also stated that [redacted] and had to receive retraining. [redacted] said that because of the [redacted] incident, in which he [redacted] received such a large dose and can not return to radiography work until 1997, everyone now follows the proper procedures regarding the gauges after each shot.

This Report of Investigation was prepared on Thursday, May 23, 1996.

Richard T. Anderson
Special Agent, RIII
Office of Investigations

EXHIBIT 7
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EXHIBIT 8

Exhibit A

CONAM INSPECTION INC
A SUBSIDIARY OF STANLEY NDT TECHNOLOGIES INC

CONAM INSPECTION INC.
CERTIFICATE OF CALIBRATION

RANGE SETTING	CAL. POINT	ACC. (+/- 20%)	
X 1	2 MR	ACCEPT	✓
X 1	8 MR	ACCEPT	✓
X 10	20 MR	ACCEPT	✓
X 10	80 MR	ACCEPT	✓
X 100	200 MR	ACCEPT	✓
X 100	800 MR	ACCEPT	✓

THE ABOVE CALIBRATIONS WERE PERFORMED IN ACCORDANCE WITH CONAM'S RSAM, PART 8, USING A G/N IC-51 CALIBRATION DEVICE.

SIGNATURE [signature] CAL. DATE 3-14-96

DIVISION 596 VOID DATE 6-14-96

MFG. NDS MODEL ND-2000 S/N 14252

COPY: CORPORATE ___ DIVISION ✓ DEVICE ___

EXHIBIT 8

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CASE NO. 3-96-0147

EXHIBIT 9

Exhibit B

CONAM INSPECTION INC
A SUBSIDIARY OF STANLEY NDT TECHNOLOGIES INC

CONAM INSPECTION INC. CERTIFICATE OF CALIBRATION			
RANGE SETTING	CAL. POINT	ACC. (+/- 20%)	
X 1	2 MR	ACCEPT	✓
X 1	8 MR	ACCEPT	✓
X 10	20 MR	ACCEPT	✓
X 10	80 MR	ACCEPT	✓
X 100	200 MR	ACCEPT	✓
X 100	800 MR	ACCEPT	✓

THE ABOVE CALIBRATIONS WERE PERFORMED IN ACCORDANCE WITH CONAM'S RSAM, PART 8, USING A G/N IC-51 CALIBRATION DEVICE.

SIGNATURE [signature] CAL. DATE 3-14-96

DIVISION 396 VOID DATE 6-14-96

MFG. NDS MODEL NDS-2000 S/N 13241

COPY: CORPORATE ___ DIVISION ✓ DEVICE ___

CASE NO. 3-96-014

EXHIBIT 9

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EXHIBIT 10

Exhibit C

CONAM INSPECTION INC
A SUBSIDIARY OF STAVELEY NDT TECHNOLOGIES INC

CONAM INSPECTION INC. CERTIFICATE OF CALIBRATION			
RANGE SETTING	CAL. POINT	ACC. (+/- 20%)	
X 1	2 MR	ACCEPT	✓
X 1	8 MR	ACCEPT	✓
X 10	20 MR	ACCEPT	✓
X 10	80 MR	ACCEPT	✓
X 100	200 MR	ACCEPT	✓
X 100	800 MR	ACCEPT	✓

THE ABOVE CALIBRATIONS WERE PERFORMED IN ACCORDANCE WITH CONAM'S RSAM, PART 8, USING A G/N IC-51 CALIBRATION DEVICE.

SIGNATURE Dexter C CAL. DATE 3-14-96

DIVISION 596 VOID DATE 6-14-96

MFG. NDS PRODUCTS MODEL NDJ-2000 S/N 13631

COPY: CORPORATE ___ DIVISION ✓ DEVICE ___

EXHIBIT 10

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EXHIBIT 11

Exhibit D

CONAM INSPECTION INC
A SUBSIDIARY OF STANLEY NDT TECHNOLOGIES INC

CONAM INSPECTION INC. CERTIFICATE OF CALIBRATION			
RANGE SETTING	CAL. POINT	ACC. (+/- 20%)	
X 1	2 MR	ACCEPT	✓
X 1	8 MR	ACCEPT	✓
X 10	20 MR	ACCEPT	✓
X 10	80 MR	ACCEPT	✓
X 100	200 MR	ACCEPT	✓
X 100	800 MR	ACCEPT	✓

THE ABOVE CALIBRATIONS WERE PERFORMED IN ACCORDANCE WITH CONAM'S RSAM, PART 8, USING A G/N IC-51 CALIBRATION DEVICE.

SIGNATURE [signature] CAL. DATE 3-14-96

DIVISION 596 VOID DATE 6-14-96

MFG. NDS PRODUCTS MODEL ND-2000 S/N 15904

COPY: CORPORATE ___ DIVISION ✓ DEVICE ___

EXHIBIT 11

PAGE 1 OF 1 PAGE(S)

EXHIBIT 12

Report of Interview
with
Larry HASTING

On Wednesday, June 5, 1996, Larry HASTING, Assistant Laboratory Manager, Conam Inspection, was interviewed by R:III Office of Investigations at Portage, Indiana.

HASTING stated that he first started at Conam Inspection (Conam) in 1990 as a trainee. After receiving schooling, paid for by Conam and conducted at the Moraine Valley Community College, HASTING became a Radiographer's Assistant in 1992. He said that he left Conam in the summer of 1993 and went to work for SGS Inspection, East Chicago, Indiana. While at SGS, he received further training and became a Radiographer. In May 1994, he returned to Conam and in May 1995, he was promoted to Assistant Laboratory Manager.

HASTING stated that in the past, Conam management at the Gary office ran a "pretty tight ship." However, he did admit that he, along with most of the other radiographers at Conam were lacks when operating the Amersham Model 660B exposure device. He said that he and others didn't always assure that the automatic locking mechanism was engaged; that the selector mechanism was rotated to the locked position; and that the key lock plunger was depressed. HASTING admitted that the incident on February 27, 1996, involving [redacted] frightened the radiographers. He stated that since that incident, every radiographer he had worked with had operated that model gauge properly.

HASTING stated that he was present in the Gary, Indiana office on March 14, 1996, the day that Steve FAY, Supervisor, directed [redacted] Laboratory Technician, to accompany him (FAY) into the back room to calibrate some survey meters. HASTING said that FAY was only gone approximately 15 minutes, then returned to the area where HASTING was working. HASTING said that [redacted] did not return for approximately another hour and 15 minutes. HASTING stated that he thought it strange that [redacted] should assist in the calibration of the meters since [redacted] allegedly had no nuclear gauge or radiation safety training. HASTING stated that [redacted] duties in the laboratory were performing ultrasonic tests, mass particle tests, and dye penetration tests.

HASTING said that he did not think about the incident again until that afternoon when [redacted] Radiographer, and [redacted] Radiographer's Assistant, asked him (HASTING) why [redacted] had signed the certificate of calibration for four survey meters (Exhibit A-D). HASTING directed [redacted] and [redacted] to ask FAY that question. When they asked FAY, who was standing near HASTING, HASTING stated that FAY allegedly told the two that [redacted] can calibrate a meter as long as it was under his (FAY) direction. Then FAY allegedly asked the two if they had a problem with [redacted] assisting him (FAY). HASTING said that [redacted] and [redacted] allegedly told FAY that they did have a problem with [redacted] assisting in calibrating the meter, because [redacted] did not have a dosimetry badge or any radiography safety training. HASTING said that even later that same day, [redacted] Radiographer, asked him (HASTING) why [redacted] signed the certificate of calibration of the four meters. HASTING directed [redacted] to ask FAY. HASTING said that he was not aware of any conversation between [redacted] and FAY.

EXHIBIT 12

HASTING stated that he did not talk to FAY about the incident. He said that the next time he addressed the incident was with the NRC inspectors during their inspection of Conam in Gary, Illinois.

HASTING said that he had observed, in the past, the meters being calibrated by [redacted] and [redacted] He said that it took these two radiographers approximately 30 minutes to calibrate each meter.

HASTING stated that on April 12, 1996, after the NRC completed its inspection, FAY completed a second calibration (Exhibit E) on meter, S/N 14252 (Exhibit A), and a second calibration (Exhibit F) on meter, S/N 13241 (Exhibit F).

HASTING stated that he was aware of an incident regarding FAY signing an inspection and maintenance form for an inspection on an exposure device, S/N 2872, which he (FAY) dated March 12, 1996 and then signed the form as [redacted] (Exhibit G). HASTING stated that that wasn't even the correct spelling of [redacted] HASTING stated that he learned later that that device was not inspected until March 18, 1996.

HASTING stated that the GARY office of Conam was always run according to procedures. However, he stated that since FAY took over in February 1996, commuting from the Conam Itasca, Illinois office, he felt that a lot of procedures were being violated, such as the calibration of the survey meters and the lateness of inspection of exposure devices. He stated that he thought that this may have been the way that management at the Itasca office ran their business. HASTING stated that he felt Randy SWEET, Manager of the Gary office since February 1996, and commuting from the Itasca office, was aware of the problems but just didn't care. Finally, HASTING stated that the last time he saw Robert SLACK, Radiation Safety Officer, was in March 1996.

This Report of Interview was prepared on Thursday, June 6, 1996.

Richard T. Anderson
Special Agent, RIII
Office of Investigations

EXHIBIT 12
PAGE 2 OF 2 PAGE(S)

EXHIBIT 13

Exhibit E

CONAM INSPECTION INC
A SUBSIDIARY OF STANLEY NDT TECHNOLOGIES INC

CONAM INSPECTION INC. CERTIFICATE OF CALIBRATION			
RANGE SETTING	CAL. POINT	ACC. (+/- 20%)	
X 1	2 MR	ACCEPT	
X 1	8 MR	ACCEPT	
X 10	20 MR	ACCEPT	
X 10	80 MR	ACCEPT	
X 100	200 MR	ACCEPT	
X 100	800 MR	ACCEPT	

THE ABOVE CALIBRATIONS WERE PERFORMED IN ACCORDANCE WITH CONAM'S RSAM, PART 8, USING A G/N IC-51 CALIBRATION DEVICE.

SIGNATURE [signature] CAL. DATE 4-12-96

DIVISION S96 Gray VOID DATE 7-12-96

MFG. NDS MODEL ND-2000 S/N 14252

COPY: CORPORATE ___ DIVISION X DEVICE ___

EXHIBIT 13

PAGE 1 OF 1 PAGE(S)

CASE # 1-96-0141

EXHIBIT 14

Exhibit F

CONAM INSPECTION INC
A SUBSIDIARY OF STANLEY NDT TECHNOLOGIES INC

CONAM INSPECTION INC.
CERTIFICATE OF CALIBRATION

RANGE SETTING	CAL. POINT	ACC. (+/- 20%)	
X 1	2 MR	ACCEPT	
X 1	8 MR	ACCEPT	
X 10	20 MR	ACCEPT	
X 10	80 MR	ACCEPT	
X 100	200 MR	ACCEPT	
X 100	800 MR	ACCEPT	

THE ABOVE CALIBRATIONS WERE PERFORMED IN ACCORDANCE WITH CONAM'S RSAM, PART 8, USING A G/N IC-51 CALIBRATION DEVICE.

SIGNATURE [signature] CAL. DATE 4-12-96

DIVISION 596 Gary VOID DATE 7-12-96

MFG. NDS MODEL ND-2000 S/N 13241

COPY: CORPORATE ___ DIVISION X DEVICE ___

EXHIBIT 14

PAGE 1 OF 1 PAGE(S)

CASE NO. [illegible]-014

EXHIBIT 15

Report of Interview
with
[redacted]

On Wednesday, May 22, 1996, [redacted] Radiographer's Assistant, Conam Inspection, was interviewed by OI:RIII at Crown Point, Indiana.

[redacted] stated that he started with Conam Inspection (Conam) in [redacted] He said that he was a Level II when he started with Conam, but that he had received both a 40 hour radiation safety course and a film interpretation course while at Conam.

[redacted] stated that on March 18, 1996, he and [redacted] Radiographer, were working at UNO-VEN in Lemont, Illinois, when [redacted] received a page to call the office. When [redacted] called the office, he heard [redacted] talking to Steve FAY, Supervisor, Conam, at the Gary, Indiana office. After the conversation, [redacted] told [redacted] that FAY allegedly had instructed him [redacted] to complete a 90 day inspection on the Amersham Model 660 B gauge that they were using at that site. [redacted] said that [redacted] then did the inspection of the gauge.

[redacted] said that he went into the Gary office everyday before leaving for a job site. He stated that on March 23, 1996, he was in the office and saw the paper work for the inspection of the gauge that he and [redacted] had in Illinois. [redacted] stated that he observed the date of inspection written on the inspection sheet as, "March 12, 1996." [redacted] stated that he saw written, "Done as per [redacted] [sic]." He also stated that [redacted] last name was misspelled on the sheet. [redacted] said that he checked the serial number, which was B-2872, to verify that it was the same gauge that was in Illinois.

[redacted] stated that he was aware of at least three survey meters located at the Gary office and one meter located at the Mobil facility, Joliet, Illinois, that had stickers of calibration with [redacted] signature on them. [redacted] stated that [redacted] was not certified to even use radiography equipment: therefore, he [redacted] could not understand why [redacted] could or would sign the calibration sticker. [redacted] stated that he, [redacted] Radiographer's Assistant, and [redacted] told Larry HASTING, Supervisor, about [redacted] signature. HASTING allegedly went to FAY and Randy SWEET, General Manager, about their concern, but nothing was done about the problem. FAY allegedly told HASTING that [redacted] did the calibration under his (FAY) supervision. [redacted] said that he made sure that he [redacted] never used one of the four gauges that had (ALLEN's) signature of the calibration.

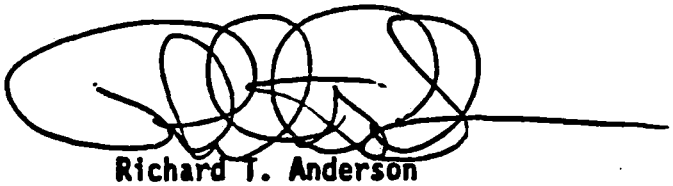
[redacted] acknowledged that he was aware of different radiographers who did not routinely lock the gauge after each shot. He stated that it was just carelessness of their part. He said that he was aware of the incident involving [redacted] but stated that the company put out a memorandum about the proper use of the locking system after [redacted] incident.

EXHIBIT 15

(IA) [redacted] 0141

PAGE 1 OF 2 PAGE(S)

This Report of Investigation was prepared on Thursday, May 23, 1996.



Richard T. Anderson
Special Agent, RIII
Office of Investigations

EXHIBIT 15
PAGE 2 OF 2 PAGE(S)

EXHIBIT 16

EXHIBIT G

CONAM INSPECTION

6105 Rookin Street
Houston, Texas 77074
(713)774-5657

PERIODIC INSPECTION AND MAINTENANCE
of
PROJECTOR TYPE EXPOSURE DEVICES

e Inspected 3-12-96 Next Inspection Due 6-12-96

nufacturer SENTINEL Model No 660B Serial No 2872

e of Isotope IRIDIUM 192 Source No A6986 Curie Strength 46.38

INSPECTION AND CORRECTIVE ACTION TAKEN IS PERFORMED IN ACCORDANCE WITH PART 9 OF CONAM'S RADIATION SAFETY ADMINISTRATION MANUAL

CHECK EACH ITEM BELOW

	ITEM	ACCEPTABLE	CORRECTIVE ACTION TAKEN
PROJECTOR	Safety Caps	✓	
	Lock	✓	
	Handle	✓	
	Labels	✓	
	Outlet Nipple and Threads	✓	
CONNECTOR	Snug Fit	✓	
	Straightness	✓	
	Excessive Wear	✓	
	Pull Test	✓	
SOURCE POSITIONER	Handle	✓	
	Gear Box	✓	
	Screws	✓	
	Conduit Connections	✓	
	Cable Flexibility	✓	
	Straightness	✓	
SOURCE TUBE	Physical Damage	✓	
	End Cap	✓	
	Foreign Material	✓	
	Connections	✓	
	Kinks and Crimps	✓	

MISCELLANEOUS REMARKS Performed By [redacted] @ Grower Refinery

EXPOSURE DEVICE INSPECTED AND REPAIRED AS NOTED AND IS ACCEPTABLE EXHIBIT 16

PAGE 1 OF 1 PAGE(S)

EXHIBIT 17

Report of Interview
with
Stephen L. FAY

On Thursday, September 5, 1996, at approximately 11:20 a.m., Stephen L. FAY, Laboratory Manager, Conam Inspection, Inc., was interviewed by Special Agent Richard Anderson, NRC:RIII Office of Investigations, and Thomas Young, Radiation Specialist, NRC:RIII Division of Nuclear Materials and Safety, at Itasca, Illinois.

FAY stated that he began with Conam Inspection, Inc. (Conam), in October 1984 in Minnesota, as a technician. He said that he left Conam in 1986 but return in October 1990 as a utilities supervisor. In June 1993, he became the laboratory manager at the Itasca, Illinois office.

FAY said that the Gary, Indiana office was opened in 1985 with William HIESTAND as the first manager. FAY said that Keith TUCKER became the Gary office Radiation Safety Supervisor in 1993. In February 1996, HIESTAND was discharged by Conam's senior management, and TUCKER resigned in March 1996.

FAY stated that for the last number of months, Conam's management had been debating whether to close the Gary office and move everyone to Itasca or to close the Itasca office and leave the Gary office open. He said that this indecision led to an uneasy feeling among the employees. After TUCKER and HIESTAND were gone from the Gary office, FAY said that he was directed by management to report to Gary as a project manager. He said that shortly after arriving in Gary, he found the office fairly organized but noticed that some radiographic gauges and survey meters needed 90 day calibrations.

FAY stated that there was some animosity against [redacted] who was also directed to report to Gary from Itasca, and him by the Gary personnel since many of the Gary personnel had been either relatives or close friends of HIESTAND. Partly because of this animosity, FAY said that he chose [redacted] to assist him with the calibration of the survey meters. FAY said that he had worked with [redacted] before and trusted him. FAY said that the calibration of survey meters was not that difficult to learn, and he knew that [redacted] was a bright employee who learned very fast. FAY also said that there was no one else in the office when they started the calibration testing.

FAY said that he did not issue [redacted] a film badge before they started. He said that he did not remember if [redacted] asked him for a film badge or not. FAY stated that it was just an oversight on his part that he did not obtain a film badge for [redacted]

FAY said that he set up the ionized source then calibrated the first survey meter while explaining everything to [redacted] He said that the first meter took about one hour to calibrate. FAY said that he actually calibrated the second meter while [redacted] assisted. FAY said that the third meter was done by [redacted] while he stood by assisting when and where needed. FAY said that the last two meters were calibrated by [redacted] however, he said that he was close by [redacted] FAY said that on a couple of occasions he left the room to answer a phone in another part of the building but mainly was in the general area with [redacted]

EXHIBIT 17

CASE NO 3-96-014

FAY said that after [redacted] finished each meter, he (FAY) reviewed [redacted] work. He said that he had [redacted] do the paper work (which included signing the calibration sheet) so that [redacted] knew exactly where each copy went. FAY stated that he knew that each meter was properly calibrated because he, personally, recalibrated each meter himself.

FAY stated that later that same day, [redacted] a radiographer, approached him and asked why [redacted] had signed the calibration sheets for the meters. FAY said that he explained to [redacted] that he (FAY) trained [redacted] in the proper procedure for calibrating survey meters. He said that he asked [redacted] if he [redacted] had a problem with that, and [redacted] reportedly said that he did not.

FAY stated that a short while later, Randy SWEET, the Itasca General Manager, contacted him and said that a number of radiographers were complaining about [redacted] signature on the calibration sheets for the meters. FAY said that he explained exactly what he did to SWEET, but SWEET directed him to recalibrate each meter and sign a new calibration sheet. FAY said that he did this on April 12, 1996 (Exhibit E, F, I, and K).

FAY, when asked why the "accept" box was not checked on the calibration sheets that he redid, stated that it was his oversight that he didn't check the box; that he didn't know why he did not check each box.

FAY stated that he called [redacted] and directed him to do the 90 day calibration on the radiography camera located at the Uno-ven facility in Lemont, Illinois. FAY said that [redacted] called him and said that the camera was calibrated by him [redacted] on March 12, 1996. FAY said that with this information, he then filled out the form for the camera calibration (Exhibit G) and signed "Performed by [redacted] [sic] @ Unoven [sic] Refinery" and put as the date of inspection "3-12-96." FAY said that he expected [redacted] to then fill out the paperwork when he came into the Gary office and sign it. FAY said that he heard later that he allegedly lied about the date; that he had predated the form to March 12, 1996, when, in fact, it was allegedly done a week later. FAY said that that information was totally false; that he had absolutely no reason to falsify that document; and that he signed the document as being performed by [redacted] knowing full well that [redacted] was to replace that document with one signed and dated by [redacted] FAY stated that he learned later that [redacted] reportedly never filled out a new form.

FAY stated that Conam management finally decided to keep both offices open, and he was then transferred back to the Itasca office.

This Report of Interview was prepared on September 10, 1996.

Richard Anderson
NRC:RIII Special Agent
Office of Investigations

EXHIBIT 18

Ex I

CONAM INSPECTION INC
A SUBSIDIARY OF STAVELEY NDT TECHNOLOGIES INC

CONAM INSPECTION INC.
CERTIFICATE OF CALIBRATION

RANGE SETTING	CAL. POINT	ACC. (+/- 20%)	
X 1	2 MR	ACCEPT	
X 1	8 MR	ACCEPT	
X 10	20 MR	ACCEPT	
X 10	80 MR	ACCEPT	
X 100	200 MR	ACCEPT	
X 100	800 MR	ACCEPT	

THE ABOVE CALIBRATIONS WERE PERFORMED IN ACCORDANCE WITH CONAM'S RSAM, PART 8, USING A G/N IC-51 CALIBRATION DEVICE.

SIGNATURE [signature] CAL. DATE 4-12-96

DIVISION 59L Gathy VOID DATE 7-12-96

MFG. NDS MODEL UD-2000 S/N 15904

COPY: CORPORATE X DIVISION ___ DEVICE ___

EXHIBIT 18

PAGE 1 OF 1 PAGE(S)

EXHIBIT 19

2 x K

CONAM INSPECTION INC
A SUBSIDIARY OF STANLEY NDT TECHNOLOGIES INC

CONAM INSPECTION INC.
CERTIFICATE OF CALIBRATION

RANGE SETTING	CAL. POINT	ACC. (+/- 20%)	
X 1	2 MR	ACCEPT	
X 1	8 MR	ACCEPT	
X 10	20 MR	ACCEPT	
X 10	80 MR	ACCEPT	
X 100	200 MR	ACCEPT	
X 100	800 MR	ACCEPT	

THE ABOVE CALIBRATIONS WERE PERFORMED IN ACCORDANCE WITH CONAM'S RSAM, PART 8, USING A G/N IC-51 CALIBRATION DEVICE.

SIGNATURE [signature] CAL. DATE 4-12-96

DIVISION 596 Gaily VOID DATE 7-12-96

MFG. G.E. Smith MODEL GS-2000 S/N 1033

COPY: CORPORATE X DIVISION ____ DEVICE ____

EXHIBIT 19

8-96-014

PAGE 1 OF 1 PAGE(S)

EXHIBIT 20

Report of Interview
with [redacted]

On Thursday, September 5, 1996, at approximately 10:45 a.m., [redacted] Inspector, Conam Inspection, Inc., was interviewed by Special Agent Richard Anderson, NRC:RIII Office of Investigations, and Thomas Young, Radiation Specialist, NRC:RIII Division of Nuclear Materials and Safety, at Itasca, Illinois.

[redacted] stated that he began with Conam Inspection, Inc. (Conam) on [redacted] He said that he transferred to the Gary, Indiana office in August 1995. He said that he was trained as a liquid penetrant technician and was also qualified in computer and drafting design (CAD). He said that he received no radiation safety training while at Conam, only a safety orientation on the proper use of survey meters. However, [redacted] did state that in 1994 in received 40 hours of radiation safety training while employed with Petroleum Industries, Texas.

[redacted] stated that on Thursday, March 14, 1996, he was in the Gary office when Stephen FAY, Laboratory Manager, directed him to assist FAY in the calibration of a number of survey meters. [redacted] said that he was not a radiation worker; that he had occasionally served as a helper who manned the survey meter outside a roped off area where radiography was taking place. [redacted] stated that he inquired of FAY why FAY wanted him to assist and was told by FAY that this would be a training session. FAY allegedly told [redacted] that he (FAY) needed someone in the Gary office whom he could trust to do the job right. [redacted] said that he had no idea who did the calibration of the meters before that date.

[redacted] stated that he did not read a procedural manual or any other training document regarding calibration of survey meters prior to assisting FAY. He said that the training was basically on the job training. He did remember asking FAY about the need for a film badge, but he did not remember if FAY acknowledged the need for one. However, he said that he was not given a film badge.

[redacted] stated that FAY showed him how to remove the meter casing and adjust the calibration screws. FAY also showed him how to use the gradient markings (located on the floor) from the ionized source to assist with the calibration. [redacted] stated that at no time did he handle the ionized source. [redacted] said that even if he were to conduct a calibration that day (August 5, 1996), he would have a supervisor obtain the source.

[redacted] stated that the calibration of each survey meter took approximately 20 to 30 minutes. He said that FAY actually calibrated the first meter while explaining the procedure to him. He said that with the second meter, he and FAY did the calibration together. [redacted] said that with the remaining two or three meters, he did the calibration himself; however, he said that FAY was in the same room with him at all times.

[redacted] acknowledged that the signature on Exhibits A, B, C, D, and J (dated March 14, 1996) were his signature. He said that he felt that signing the

certificate of calibration for each of the meters was part of the job training. [redacted] said that he was told that a calibration was good for 90 days. He acknowledged that certificates of calibration for most of the same survey meters (Exhibits E, F, K, and I) were signed by FAY on April 12, 1996. [redacted] said that he did not know why FAY recertified the same meters.

[redacted] stated that there was no one else around when he was being trained by FAY. [redacted] stated that shortly after that date, he was assigned to "ultra sound" tank inspections. He said that since that time, he had not calibrated any other survey meters.

This Report of Interview was prepared on Tuesday, September 10, 1996.

Richard Anderson
NRC:RIII Special Agent
Office of Investigations

EXHIBIT 20
PAGE 2 OF 2 PAGE(S)

EXHIBIT 21

Report of Interview
with
Randy SWEET

On Thursday, September 5, 1996, at approximately 12:40 p.m, Randy SWEET, General Manager, Conam Inspection, Inc., was interviewed by Special Agent Richard Anderson, NRC:RIII Office of Investigations, and Thomas Young, Radiation Specialist, NRC:RIII Division of Nuclear Materials and Safeguards, at Itasca, Illinois.

SWEET stated that he had been the General Manager for Conam Inspection, Inc. (Conam), since April 1996. Prior to that he had been with Conam in Tennessee. However, he said that for a couple of months prior to April 1996, he worked between Tennessee and Illinois.

SWEET said that the general manager before him did not do anything about [redacted] regarding the over exposure incident on February 27, 1996. He stated that he reviewed the documents prepared regarding the incident (Exhibit L) and personally interviewed [redacted]. On March 20, 1996, SWEET said that he removed [redacted] radiation certification until January 1, 1997, gave him [redacted], directed him to be retrained in radiation safety, and directed him to present a radiation safety lessons learned training session to the company.

SWEET stated that he also disciplined [redacted] a radiographer's assistant, at the same time for not wearing a film badge. He said that both [redacted] and [redacted] were reportedly upset, because the two individuals felt that the incidents happened in the past.

SWEET stated that he was contacted by a couple of radiographers from the Gary office who stated that they would not use some survey meters, because [redacted] an inspector, had signed the calibration forms as having calibrated the meters. SWEET stated that he talked to both Stephen FAY, the Laboratory Manager, (temporarily assigned from Itasca, Illinois, to the Gary office) and [redacted] regarding the calibration. He said that after hearing FAY's and [redacted] explanation regarding the training of [redacted] to calibrate the meters, he (SWEET) did not feel that any policy had been violated. However, since the radiographers reportedly said that they would not use the meters, SWEET directed FAY to recalibrate all the meters in question and fill out new calibration sheets. He said that FAY did this on April 12, 1996.

SWEET said that he did not feel, after investigating the facts, that the calibration issue was a safety issue. He said that he felt that the problem identified by the Gary radiographers was really the result of personality clashes. SWEET said that the radiographers in Gary were not happy with the dismissal of the previous manager, were not happy with the discipline of [redacted] and [redacted] and that they (the radiographers) did not want personnel coming from Itasca to run their operation. SWEET also said that since he hired [redacted], and the Gary radiographers knew that, the perception was that [redacted] was SWEET's personal friend. SWEET said even though he did hire [redacted] he had no real contact with [redacted] since hiring him.

EXHIBIT 21

CASE NO 3-96-014

PAGE 1 OF 2 PAGE(S)

This Report of Interview was prepared on September 11, 1996.

Richard Anderson
NRC:RIII Special Agent
Office of Investigations

EXHIBIT 21
PAGE 2 OF 2 PAGE(S)

EXHIBIT 22

Report of Interview
with
Robert J. SLACK

On Thursday, September 5, 1996, at approximately 1:30 p.m., Robert J. SLACK, Quality Assurance Director and Radiation Safety Officer, Conam Inspection, Inc., was interviewed by Special Agent Richard Anderson, NRC:RIII Office of Investigations, and Thomas Young, Radiation Specialist, NRC:RIII Division of Nuclear Materials and Safety, at Itasca, Illinois.

SLACK stated that he had been with Conam Inspection, Inc. (Conam), as the Radiation Safety Officer (RSO) since 1989. He said that he had been the Assistant RSO at Conam since 1978. He said that at each of Conam's locations, there was an individual who was designated the radiation safety supervisor.

SLACK said that on February 27, 1996, Keith TUCKER, the Gary, Indiana office Radiation Safety Supervisor, called him at the Itasca office regarding an overexposure incident involving [redacted] a Conam radiographer. SLACK said that he advised TUCKER to immediately remove [redacted] from the work site and arrange for his film badge to be processed immediately. SLACK stated that he did not remember calling [redacted] himself.

SLACK said that on February 28, 1996, he met TUCKER and [redacted] at the Gary office. He said that they had [redacted] re-enact the entire incident for them, which he did without any props (camera or ladder). An incident report and [redacted] statement was taken at that time (Exhibit L, pp. 1-5). SLACK said that [redacted] reported to them that he [redacted] had the dosimetry in a fanny pack next to his stomach. [redacted] also reported that he surveyed the camera using a 360° motion. SLACK stated that [redacted] was very emphatic that he did not climb very high on the ladder containing the camera, and that he was involved in very little twisting motion. Therefore, the impression that [redacted] left with SLACK was that the dosimetry was in direct line with the source, and that the dosimetry reading would be nearly accurate. SLACK said that he didn't even consider a leg exposure based upon [redacted] statement.

SLACK stated that he and TUCKER made calculations based upon [redacted] statement and estimated the whole body exposure to be between 9 and 36 REM. However, the processed dosimetry reading was 4.6 REM. Because [redacted] emphasized that the dosimetry was next to the source (waist high), and that he did not climb higher on the ladder, SLACK said that he accepted the 4.6 REM reading. SLACK stated that he did not contact the NRC, because the reading had to be above 5 REM to be reportable.

SLACK said that he reviewed the incident with Randy SWEET, the newly appointed general manager, and they issued, on February 29, 1996, a memorandum (Exhibit M) to all radiographers re-emphasizing the proper procedure when using exposure devices.

SLACK stated that on Thursday, April 11, 1996, they met with NRC:RIII technical personnel, and [redacted] re-enacted for all of them the incident using a ladder and a camera. SLACK said he was surprised when [redacted] reported that he climbed up to the next-to-the-top step of the ladder (the camera being on the top step of the ladder). SLACK also said that [redacted]

indicated that the he turned away from the source (more than just twisting a little) for a period of time while he placed the film, thereby exposing his upper left leg directly to the camera. SLACK said that the new information present by [redacted] to the NRC certainly changed the amount of whole body exposure he received to his legs. SLACK said that in defense of [redacted] he [redacted] was probably very nervous the first time he recreated the incident and wanted to minimize his carelessness.

SLACK stated that after a complete review, [redacted] was removed from all radiographic activity until January 1, 1997; [redacted] he was to be retrained in radiation safety; and he was to present a lessons learned training session to the company.

Regarding the incident involving [redacted] Stephen FAY, and the survey meter calibrations, SLACK stated that he was made aware by FAY that some survey meters needed calibrating. He said that FAY later advised him that he (FAY) used [redacted] to assist in the calibrations as part of a training session with ALLEN. SLACK stated that he knew [redacted] to be a bright and intelligent individual and had no problem with FAY training [redacted] SLACK said that other than that, he was not aware of any problems that the radiographers in the Gary office had with the calibrations or with [redacted]

SLACK stated that all radiographers and assistants are issued dosimetry film badges, but a survey meter calibration source was not a radiographic device. SLACK stated that if [redacted] were to continue to calibrate meters on his own, then he expected FAY to issue [redacted] a dosimetry badge. SLACK said that it was probably an oversight on FAY's part not to give [redacted] a dosimeter in the first place, but he (SLACK) felt that the issue regarding [redacted] not having a dosimeter for the training session was a gray area. SLACK felt that section 5.1.1. of Conam's procedures: "Personnel Monitoring Requirements" (Exhibit N), applied to radiographic equipment. SLACK pointed out that the manufacturer's calibration manual for the IC-51 survey meter calibration source did not even address the dosimetry issue.

This Report of Interview was prepared on Thursday, September 12, 1996.

Richard Anderson
NRC:RIII Special Agent
Office of Investigations

EXHIBIT 22
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EXHIBIT 23

Ex N

site manager. One copy shall be retained at the job site and two copies forwarded to the regional office weekly.

5.0 PERSONNEL MONITORING REQUIREMENTS

5.1 Personnel Monitoring Equipment

5.1.1 Radiographers and radiographers' assistants/trainees (TRCR) shall wear a film badge and a pocket dosimeter at all times when working with ionizing radiation or transporting by product materials. The pocket dosimeter must be capable of measuring doses from zero to at least 200 milliroentgens. Additionally, an alarm rate meter shall also be worn when regulations require.

5.1.2 A film badge shall be assigned to, and worn by, only one person, as it is the legal media for making the determination of an over exposure. Used film badges must be returned to the regional office immediately upon receipt of a replacement badge for the next badge period.

5.1.3 Badges not being worn shall be stored in a radiation free area.

5.1.4 Pocket dosimeters shall be recharged at the beginning of each work shift and periodic readings taken throughout the work shift. Such checking will give immediate indication of radiation exposure and work procedures shall be corrected if excessive exposure is noted. At the end of each work shift final readings will be taken and recorded.

5.1.5 Any individual whose pocket dosimeter goes off scale (Over 200 mr), while using a source of radiation, shall immediately stop productive work, recharge his dosimeter, and make a complete radiation survey of the area, making certain that no additional radiation exposure is received.

(a) If the source of radiation is in the shielded position, immediately notify the Radiation Safety Officer, Assistant Officer, Manager, or an Assistant Manager, about the condition of the dosimeter.

(b) If the source is in the exposed position, make certain the area is restricted and access is controlled to prevent a radiation hazard, and notify the regional office bout the condition of the source and your dosimeter. The individual's film badge shall be processed immediately. He shall not work in areas where he can receive additional exposure until the results reported show that his total exposure is not in excess of allowable limits.

EXHIBIT 23

CONTROL NO. 394911

EXHIBIT 24

Report of Interview
with [redacted]

On Thursday, September 5, 1996, at approximately 9:55 a.m., [redacted] Technician, Conam Inspection, Inc., was interviewed by Special Agent Richard Anderson, NRC:RIII Office of Investigations, and Thomas Young, Radiation Specialist, NRC:RIII Division of Nuclear Materials and Safeguards, at Itasca, Illinois.

[redacted] stated that he had started with Conam Inspection, Inc. (Conam), in [redacted] as an assistant radiographer, but had qualified to become a radiographer. He said that between September 1991 and May 1993, he worked with SGS Industry Services (SGS), Indiana, where he attended courses to become a radiography. He also obtained, during that time frame, the 40 hour radiography safety course from Moraine Valley Community College in Illinois. [redacted] said that after he started with Conam, Keith TUCKER, the former Conam radiation safety supervisor for the Gary, Indiana field office, conducted training for him in the Conam's "Ooperating and Emergency Procedures Manual" for the various cameras and an 8 hour radiation safety review, which included a written test.

[redacted] stated that he was familiar with the operating and emergency procedures for the Amersham Model 660B exposure device since he had used the camera at both SGS and Conam.

[redacted] said that during the latter part of February 1996, he was working for Conam at a site in Indianapolis, Indiana. He said that another radiographer, [redacted] was working with him. He said on February 27, they were working the night shift, and [redacted] was in the dark room developing film. He stated that he was alone and was shooting 2" butt welds with the Amersham exposure device. He said that he had already completed between 12 and 15 shots. He believed that he had followed all the procedures up to that time but admitted that he might have, on occasion, become lax in assuring that the ring selector was turned to the locked position and that the plunger was depressed.

[redacted] stated that the company where they were working was not happy with the radiography production and was stressing that they (Conam radiographers) needed to increase the number of welds that were shot each shift. Conam was directed to increase the shift hours from eight to 12 hours. [redacted] stated that even with the longer hours it was still difficult to get the target 20 welds per shift. He said that the area he was shooting was very congested, with each shot taking approximately 10 minutes. He said that on the average, each weld required approximately three shots, so he was still pressured to increase production.

[redacted] stated that at approximately 6:30 p.m., on the 27th of February, 1996, he performed a shot with the camera located at the top of a six foot ladder. He stated that his dosimetry was located in a fanny pack next to his stomach. He said that after he cranked the source back, he neglected to turn the selector ring and depress the plunger. He did state that he thought he heard the slide bar kick over but could have been mistaken since it was a high noise area. He said that he surveyed the camera, but only on the sides. He

EXHIBIT 24

said because of the camera position, he did not survey the front part. He said that he stood on the ladder near the top rung, with his leg closest to the camera, and changed the film. He said that he then reached over to unlock the slide bar but realized that the slide bar was not totally engaged. [redacted] stated that he immediately moved the slide bar to the unlock position and then exited the area. He said that when he checked his dosimetry, it was off scale.

[redacted] said that he then fully retracted the source until he heard a click. He said he checked the alarming rate meter and it was okay. At this point, he surveyed the camera totally, pulled the key, secured the camera, and went to the trailer to explained the incident to [redacted] stated that he then telephoned TUCKER, who told him to wait for a return phone call. [redacted] stated that he thought Robert SLACK, Conam's Radiation Safety Office (RSO), called him back and directed him to return to the Gary office the next day.

[redacted] stated that on February 28, 1996, he met both TUCKER and SLACK at the Gary office. He gave SLACK his dosimetry and then explained to them what happened. [redacted] said that he told SLACK and TUCKER that during the incident, he was mainly facing the camera while surveying the camera and changing the film. He said that he stood on the second rung from the top, next to the camera. He also said that the only time he turned from the camera was to change the film. [redacted] said that he was told that his dosimetry reflected 4.6 Rems. He said that he thought that this number was a true representative of the radiation that he received. [redacted] did state that his leg was actually closer to the camera than the badge which was attached near his waist.

[redacted] stated that [redacted], he was removed from radiography activity until 1997. He said that he also received retraining on the proper operation and safety procedures regarding the cameras.

[redacted] stated that he did not follow the procedures for the camera, but he did not do it deliberately. He said that he was under pressure to increase the number of shots, and that was the reason for his carelessness.

This Report of Interview was prepared on September 9, 1996.

Richard T. Anderson
NRC:RIII Special Agent
Office of Investigations

EXHIBIT 24
PAGE 2 OF 2 PAGE(S)

EXHIBIT 25

Control Cable: 25 ft. long

(c) TECHNICAL OPERATIONS MODEL 533, 660, CAPACITY 100 CURIES, IRIDIUM 192

All exposure devices must be inspected at the beginning of each day that it is used. The radiographer making the inspection will sign the radiation report in the space provided, certifying the inspection was performed.

INSPECTION PROCEDURES ARE FOUND IN SECTION 13.0

OPERATION: SURVEY CAMERA

1. Unlock with the key and turn the selector ring from LOCK to CONNECT. The storage cover will disengage from the projector.

2. Slide the control cable collar back and open the jaws to expose the male portion of the swivel coupling (i.e., the ball-end on the drive cable).

3. Press back the spring-loaded locking pin with a thumb nail and engage the male and female portions of the swivel coupling.

4. Release the locking pin and check that the connection is secure.

   Close the jaws of the control cable connector over the swivel coupling.

5. Slide the control collar over the connector jaws.

   NOTE: The drive cable connector, when properly installed with the selector ring in the CONNECT position, displaces anti-rotation lugs which allows the selector ring to be rotated to the LOCK position and when required through to the OPERATE position.

6. Push and hold the control cable collar flush against the projector connector and rotate the selector ring from CONNECT to LOCK.

   Do not rotate past LOCK.

   The drive cable connector is now locked into the projector.

7. Keep the projector in the LOCK position until ready to start the exposure.

8. Remove safety plug from the "out" connection of the exposure device and connect the guide tubes.

EXHIBIT 25

9. Extend guide tube and control cables in as near a straight line as possible and place free guide tube at the exposure position.

10. Unlock the 533 model exposure device. The 533 model is ready to operate.

    Unlock the 660 exposure device. Use the key to unlock the projector lock and rotate the selector ring to the OPERATE position. Ensure there is no tension force in either direction on the drive cable. Push the slide bar (green marking) laterally from left to right (as seen behind the projector) until the slide bar (red marking) fully appears on the right side of the selector ring and you feel or hear the sleeve snap into slide. When the green marking is visible the source assembly is locked into the safety-stored position within the projector; when the red marking is visible the source assembly is free to be projected from/to the projector. The source is now free to move.

11. Survey to determine that radiation levels do not exceed 2mr/hr at the boundaries or perimeter of the radiographic area.

12. At end of exposure, retract source into unit.

13. Survey camera and guide tube carefully to be sure that source has returned to safe position.

14. On Model 660 the automatic locking mechanism will engage and the green dot will be exposed on the slide bar.

    (WARNING--EXPOSURE DEVICES CAN BE LOCKED IN AN UNSAFE POSTION.)

15. On Models 660 and Models 533 turn selector ring from operate to lock and secure with the projector lock.

The location of the source (storage safe, guide tube or exposure position) must always be determined by using a survey meter before, during and after each exposure.

(d) **TECHNICAL OPERATIONS MODEL 616, CAPACITY 200 CURIES, IRIDIUM 192**

This unit is a light weight, high capacity (200 curies Iridium 192), vacuum operated, remotely controlled system utilizing a manually/mechanically established vacuum with an on-off/exposed-stored source control.

EXHIBIT 25

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9.3 The procedures specified in Paragraph 9.1, shall be followed when exchanging sealed sources between a radiography exposure device and source changer.

9.4 If any unauthorized person enters the radiation area the source will be retracted and no exposures made until the area is cleared.

10.0 PROCEDURES FOR HANDLING AND USE OF LICENSED SEALED SOURCES AND RADIOGRAPHIC EXPOSURE DEVICES

10.1 General - All sealed sources used for industrial radiography by CONAM INSPECTION INC, are housed in remote operated, shielded camera type devices. The handling of byproduct materials using "open air" or "fish pole" techniques is prohibited. Any available shielding and/or a collimator shall be used when practicable.

10.2 When performing radiography, the radiographer or assistant radiographer/trainee (TRCR), under direct supervision of the radiographer/trainer, shall conduct a physical radiation survey on the rear, sides, top and front (360°) of the exposure device as follows:

(a) After each radiographic exposure to determine that the sealed source has been returned to its shielded position. In addition to the above 360° survey, the guide tube must be surveyed after each exposure.

(b) Prior to storing the radiographic exposure device, to determine that the sealed source is in its shielded position. The highest reading of this survey must be recorded on the radiation report (See Appendix A).

(c) In order to use up stock of radiation reports, the word "securing" shall be marked out and the words, "storage of" written in, also indicate 360° as per Appendix A.

10.2.1 In no case should the levels of radiation for the above surveys exceed the following limits:

(a) Radiographic exposure devices measuring less than four (4) inches from the sealed source storage position to any exterior surface of the device shall have no radiation level in excess of 50 milliroentgens per hour at six (6) inches from any exterior surface of the device.

EXHIBIT 25

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EXHIBIT 26

Ex L

CHECKLIST FOR INCIDENT REPORT

Name of Individual Making Report: KEITH TUCKER		
Name of Individual(s) Involved: [redacted]		
Date of Report: 2/27/96	Date of Incident: 2/27/96	
Time of Incident: 5:35 P.M.	Source: IR 192 S/N A7462	CO 60/ S/N N/A
Dosimeter 6102012 Due:	Rate Meter: 13102	Due: 12/16/97
Curies: 94 Camera Model # 660	Serial #: B2179	
Survey Meter Model # GS 2000 Serial #: 1032	Void Date: 3/5/96	
Was Survey Meter Working Correctly? YES	Rate Meter? YES	
How Was the Source Returned to the Safe Position? NORMAL CRANK IN!		
Who Returned the Source to the Safe Position? [redacted]		
By Whose Authority Was the Source Returned? NOT REQUIRED		
Was any Individual's Dosimeter Discharged? YES [redacted] If Yes: Was Individual removed from any activities where they could receive any additional exposure? YES Was film bade picked up for immediate processing? YES Was dosimeter recharged? YES! NO DRIFT FOR 15 HOURS		
Calculate Exposures: (Show Calculations): 94 x 5.9 + 554,600mr/1x1 = 554R/hr x .0667 = 36.97R : 554,600/2x2 = 138mr x .0667 = 9.24R etc.		
Whole Body 9 to 36 REM	Actual Whole Body 4.6 REM	
Was Individual Returned to Duty (RT)? NOT UNTIL F/B IS PROCESSED		
Job Location: ELI LILLY/INDIANAPOLIS, IN 1-317/227-9729 x 389B		
Corrective Steps Taken/Results Achieved (Use additional sheets as necessary)		
Corrective Steps Which Will Be Taken To Avoid Future Incidents:		
Date When Full Compliance Will Be Achieved: CURRENT		
Transmittal Date: 2/28/96	RSO Office Received Date: 2/28/96	
REPLY WITH TEN (10) DAYS OF TRANSMITTAL DATE!		
CC: Boyd Creech	Responsible Manager:	

RJS.jjh:96-045

EXHIBIT 26

A & B = COLUMNS : YOS.

6FT STEP LADDER WAS BEING USED

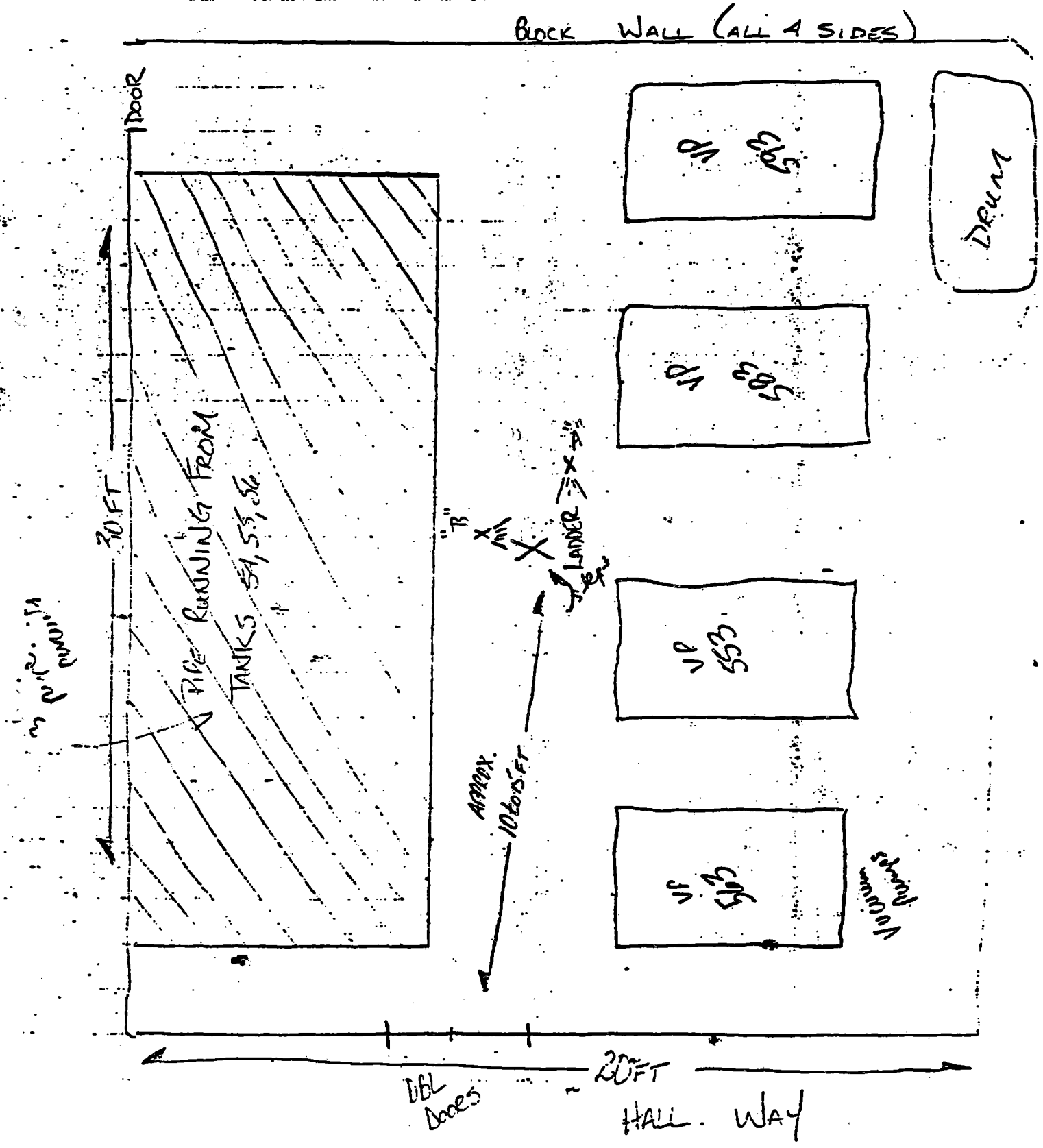

EXHIBIT 26

PAGE 2 OF 5 PAGE(S)

ON FEB 27, 1996 I [redacted] WAS PERFORMING RADIOGRAPHY AT THE ELI LILLY TECHNOLOGY CENTER. THE WORK WAS BEING PERFORMED IN THE D WING 2ND FLOOR OF BUILDING 110.

THE ROOM WERE THE X-RAYS WERE TO BE TAKEN WAS APPOX. 20' WIDE BY 30' LONG AND MADE OF CONCREATE BLOCK WALLS. THE ROOM CONTAINED VARIOUS SIZE PIPE AND A NUMBER OF VACUUME PUMPS.

I BEGAN SHOOTING AT APPROX 3:30 PM WHILE PERFORMING THE JOB I WAS USING A 6FT STEP LADDER TO ASSIST ME IN REACHING THE ELEVATED PIPE. DURING THIS TIME THE CAMERA WAS SITING ON THE TOP STEP OF THE LADDER TO HELP REACH THE HIGHT NEEDED TO MAKE THE EXPOSURES. AFTER EVERY EXPOSURE A SURVEY WAS TAKEN ON THE CAMERA AND GUIDE TUBE CONNECTION TO BE SURE CAMERA WAS IN SHIELDED POSSISION. (NOTE NO PROBLEMS WERE NOTED). BEFORE THE TIME OF INCIDENT I HAD MADE #5 EXPOSURES WITH NO APPARENT PROBLEMS AT APPROX 6:30 PM I CRANKED IN AN EXPOSURE AND PROCEEDED INTO THE ROOM HOLDING THE SERVEY METER IN MY RIGHT HAND AND AN UNEXPOSED PIECE OF FILM IN MY LEFT I BEGAN DOING MY SERVEY OF THE CAMERA NOTE: (CAMERA WAS AT ABOUT A 60° ANGLE TO ME WITH THE OPEN END POINTING AWAY FROM ME) I STARTED AT THE Ir SOURCE TIP AND WORKED MY WAY DOWN TO THE CAMERA WERE I RECIEVED MY HOTTEST READING OF 20 mR/hr AT THE SIDE

ASSURED THAT THE SOURCE WAS IN THE SHIELDED POSITION I PROCEDED UP THE LADDER TO SET UP FOR THE NEXT EXPOSURE. AFTER COMPLETING THE SET UP I REACHED TO THE BACK OF THE CAMERA TO UNLOCK THE SOURCE FOR THE NEXT EXPOSURE I NOTICED THAT THE BAR WAS NOT SLID OVER TO THE LOCKED POSITION ALL THE WAY I PROCEED TO UNLOCK THE CAMERA AND THEN LEFT THE ROOM. BEFORE CRANKING OUT FOR THAT EXPOSURE I CHECKED MY DOSIMETER AND FOUND IT OFF SCALE I THEN CHECKED MY RATE ALARM TO MAKE SURE IT WAS OPERATING. (RATE ALARM WAS OK) I THEN CALLED KEITH TUCKER (R.S.O.) TO NOTIFY HIM ON WHAT HAD HAPPENED

[redacted]

2-28-96

EXHIBIT 26

BOB: DENSITY ON CLEAR FILM WAS .15
AND DENSITY ON EXPOSED FILM WAS 1.86 t
4.53

EXHIBIT 26
PAGE 5 OF 5 PAGE(S)

EXHIBIT 27

Ex M

INTER

OFFICE

MEMO

DATE: FEBRUARY 29, 1996

TO: DISTRIBUTION

FROM: R. J. SLACK

REF: RADIATION INCIDENT

On February 27, 1996, the attached incident occurred in Indianapolis, IN.

After reviewing the written description of the incident and observing a "mock-up" reenactment of the occurrence, I have determined the following.

The survey to assure the source was in the secured position was performed but not with full attention given to the reading coming from the exit port of the camera.

Additionally, as the entrance door was closed, the radiographer could not hear the slide bar mechanism "click" into the safety-stored position (green dot exposed). He failed to assure that the slide bar was completely in the safety-stored position. The selector RING was not rotated from the "operate" to "lock" position nor was the key-lock plunger mechanism depressed.

This incident resulted in a whole body exposure to the radiographer of 4.6 REM. With a January dose of 0.150 REM already recorded, the decision has been made to remove the radiographer from ALL future radiographic operations for the duration of the 1996 calendar year.

In order to avoid future incidents of this nature, it is determined that ALL exposure devices will be operated in the following manner:

EXHIBIT 27

Prior to the initial exposure, ALL radiographers must assure that the source is connected properly to the drive cable; the drive cable housing is properly connected to the camera; the camera is set into the "operate" position, and, after exiting the area, the exposure is made.

After completing EACH exposure, a full and accurate survey of the collimator, guide tube, camera exit port and complete perimeter of the camera will be performed, the camera position selector mechanism will be rotated (manipulated) to the LOCKED position and the key lock plunger WILL BE DEPRESSED.

Any deviation of these instructions will be grounds for disciplinary action up to and including termination.

Please apprise ALL radiographic personnel of these instructions as they will be held accountable for compliance.

RJS.jjh:96-047

DISTRIBUTION:

M. Creech	J. Bruegger	B. Creech
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K. Tucker	A. Bagarry	R. Wilson
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D. Totman	C. Norcutt	J. Fling
S. Sherman	Unoven Site Rep	L. Galloway
		B. Kremlun

EXHIBIT 27
PAGE 2 OF 2 PAGE(S)

EXHIBIT 28

5.0 PERSONNEL TRAINING AND QUALIFICATION REQUIREMENTS

5.1 Administrative Personnel--All administrative personnel named on Appendix A, (other than electronic repair), shall meet either (a) or (b) plus (c) below.

(a) Three years practical experience in performing or directing the performance of industrial radiographic operations.

or

(b) Successful completion or an approved formal course of instruction in radiation health physics (i.e. training school courses of general industry acceptance, qualified licensee's training program or equivalent programs).

plus

(c) Successful completion of a one hundred twenty five (125) questions radiation safety test.

Additionally, all administrative personnel must be qualified radiographers prior to performing radiography and, to perform source recoveries, they must be qualified radiographers plus shall have received instructions in source recovery or have equivalent experience.

In no event shall any administrative personnel perform functions in excess of their experience and instructions.

5.1.1 The experience and training record of each man named shall be documented and maintained on file by the Radiation Safety Officer.

5.2 Radiographers - To qualify as a radiographer with CONAM Inspection, Inc., each technician who has not worked as a radiographer for another license must meet the following requirements:

5.2.1 Receive a minimum of three months on-the-job training performing industrial radiography under the supervision of a qualified radiographer and have assigned to him a copy of CONAM's "Operating and Emergency Procedures Manual."

5.2.2 Receive or have received a minimum of forty total hours formal instructions covering the following points:

EXHIBIT 28

PAGE 1 OF 3 PAGE(S)

I. FUNDAMENTALS OF RADIATION SAFETY

a. Characteristics of gamma radiation.

b. Units of radiation dose (mrems) quantity of radioactivity (curie).

c. Hazards of exposure to radiation.

d. Levels of radiation from licensed material.

e. Methods of controlling radiation dose--
   1. Working Time
   2. Working Distances
   3. Shielding

II. RADIATION DETECTION INSTRUMENTATION TO BE USED

a. Use of radiation survey instruments--
   1. Operation
   2. Calibration
   3. Limitations

b. Survey Techniques

c. Use of personnel monitoring equipment--
   1. Film badges and thermoluminescent dosimeters (TLD's)
   2. Pocket dosimeters
   3. Alarming rate meters

III. RADIOGRAPHIC EQUIPMENT TO BE USED

a. Remote handling equipment

b. Radiographic exposure devices

c. Storage containers

IV. INSPECTION AND MAINTENANCE PERFORMED BY THE RADIOGRAPHERS

V. CASE HISTORIES OF RADIOGRAPHY ACCIDENTS

EXHIBIT 28

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5.2.3 The forty hour total required to qualify as a radiographer may consist of the sixteen hours formal training to qualify as an assistant radiographer, plus twenty-four given to qualify as radiographer, or may consist of a forty-hour course given by outside agency, approved by the Radiation Safety Officer.

5.2.4 Demonstrate his ability to properly utilize radiation survey instruments, personnel monitoring equipment and evidence a thorough understanding of survey techniques involved. Must be aware of the correct operation of such instruments, the calibration requirements and the limitations of the instruments used. Must also have a working knowledge of the primary mathematics involved in basic radiation calculations.

5.2.5 Demonstrate thorough familiarity with the radiographic exposure equipment used, daily inspections and maintenance requirements, and with instructions for safe application of the units involved. This will be documented using the field examination form (Radiographer).

5.2.6 Pass a written examination designed to test his knowledge and understanding of the points covered in the training and instructions he has received. The examination will consist of fifty or more questions selected from a list of 125 possible questions and a grade of 75% or better is required to pass. Each question that is answered incorrectly will be discussed and reviewed with the student.

5.2.7 Technicians who have previously worked as radiographers for another licensee may be qualified for CONAM if–

a. It can be verified that the technician has worked as a fully qualified radiographer for another licensee, and

b. Receives instructions in CONAM's O&E Manual, including equipment operation, and the NRC License (State License where applicable).

c. Satisfies the requirements of 5.2.4 and 5.2.5 by practical demonstration, and

d. Is tested as required in paragraph 5.2.6.

5.2.8 Students not passing the initial examinations shall not be qualified as radiographers until additional instruction and re-examination (using different questions) qualifies them.

EXHIBIT 29

Report of Interview
with [redacted]

On Thursday, August 29, 1996, [redacted] Radiographer, Level II, Conam Inspection, was interviewed by RIII:OI Special Agent Richard Anderson at the Uni-ven Refinery, Lemont, Illinois.

[redacted] stated that he started with Conam Inspection in [redacted]. He said that he was already a trained radiographer in May 1993, but that Bill HIESTAND, Gary Office Manager, Conam Inspection, trained him on Conam's policy manual. He said that he worked out of the Gary office and would go to a new job location each day. He said that each day he would take a different radiographic gauge. He said that the gauge would then be returned to the office each night.

[redacted] stated that in February 1995, he was assigned permanently to the Uni-Ven Refinery, Lemont, Illinois. He said that before he started there, Keith TUCKER, Conam Supervisor, instructed him on how to do a 90 day inspection on gauges. He said that there were two gauges assigned to the Lemont site. During 1995, he said that he did at least three inspections of the gauges, which included signing the paper work. However, he said that on some occasions, the gauges were returned to the Gary office, and new gauges were brought back to Lemont.

[redacted] said that around February 1996, there was a major turnover of personnel at the Gary office. He said that HIESTAND and TUCKER resigned, and that Steve FAY, who had been working out of the Itasca, Illinois office, became the new manager. [redacted] said that he was aware that during this time period, there was some confusion because of the abrupt change in personnel.

[redacted] said that he remembered that on the March 18, 1996, FAY called him and said that the gauge that he [redacted] had was just past due for the 90 day inspection. [redacted] said that he was instructed to do the inspection immediately, and that FAY would handle the paper work back at the Gary office. [redacted] said that he did the full inspection of the gauge immediately. [redacted] stated that the next day, March 19, 1996, he was in the Gary office and looked at the paper work (Exhibit 6) for the gauge. He said that he observed that FAY had noted that he [redacted] had done the inspection (which he said was correct), but that the date on the paper work listing the inspection was reported as being done on March 12, 1996. [redacted] said that he did not think anything of it, because he knew that FAY was trying to get all the paper work, which was just left in disarray by TUCKER, in order.

[redacted] stated that he did not feel that FAY was trying to deceive the NRC; that FAY was doing his best to reorganize the office and that that particular 90 day inspection was just over looked. [redacted] said that he was aware that since that time, all gauges were inspected on time.

[redacted] said that he was aware of the rumor regarding [redacted] performing an inspection of some survey meters, but he had no first hand knowledge of the incident.

EXHIBIT 29

END. 3-96-014

[redacted] said that he was aware of th[redacted] incident in February 1996, in which the radiographer failed to secure the plunger lock on the camera after a shot and had over exposed himself. [redacted] said that it was true that before the incident, he and others were lacks in locking the plunger; however, after that incident, the company issued a directive ordering everyone to follow the written procedure. [redacted] said that since then he had been diligent in following all procedures of Conam Inspection.

This Report of Interview was prepared on Friday, August 30, 1996.

Richard Anderson
Special Agent, RIII
Office of Investigations

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