

NOTICE OF VIOLATION

Finlay Testing Laboratories, Inc.
Testing and Inspection Services
Aiea, Hawaii

Docket No. 030-13435
License No. 53-17854-01
EA 88-69

During an NRC inspection and investigation conducted beginning August 31, 1987, and continuing through March 18, 1988, certain violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedures for NRC Enforcement Actions," 10 CFR Part 2, Appendix C (1987), the violations are listed below:

- I. License Condition 15 provides that the licensee may transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material".

10 CFR 71.5(a) states that each licensee who transports licensed material outside of the confines of its plant or other place of use, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations of the Department of Transportation in 49 CFR Parts 170 through 189 appropriate to the mode of transport.

10 CFR 71.5(b) provides that for shipments not in interstate or foreign commerce, or for shipments not transported in civil aircraft, the licensee shall conform to the DOT requirements as required by 10 CFR 71.5(a).

- A. 49 CFR 173.448(f) states that no person shall offer for transportation aboard a passenger-carrying aircraft any radioactive material unless that material is intended for use in, or incident to, research, medical diagnosis or treatment.

Contrary to the above:

1. On February 9, 1987, the licensee transported an exposure device containing licensed radioactive material on a passenger aircraft from Honolulu to Hilo, Hawaii for the purpose of conducting radiography.
2. On February 14, 1987, the licensee transported an exposure device containing licensed radioactive material on a passenger aircraft from Hilo to Honolulu, Hawaii.
3. On April 3, 1987, the licensee transported an exposure device containing licensed radioactive material on a passenger aircraft from Honolulu to Hilo, Hawaii for the purpose of conducting radiography.
4. On April 3, 1987, the licensee transported an exposure device containing licensed radioactive material on a passenger aircraft from Hilo to Honolulu, Hawaii.
5. On April 14, 1987, the licensee transported an exposure device containing licensed radioactive material on a passenger aircraft from Honolulu to Hilo, Hawaii for the purpose of conducting radiography.

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6. On April 14, 1987, the licensee transported an exposure device containing licensed radioactive material on a passenger aircraft from Hilo to Honolulu, Hawaii.

Each of the above transportation events is a Severity Level I Violation (Supplement V).

- B. 49 CFR 172.200(a) requires that each person who offers a hazardous material for transportation shall describe the hazardous material on a shipping paper in a manner prescribed by Subpart C of 49 CFR Part 172.

49 CFR 172.101 classifies radioactive material as a hazardous material for the purpose of transportation.

Contrary to the above, on six occasions between February 9, 1987 and April 14, 1987, radiographic exposure devices containing licensed radioactive material were transported on commercial aircraft by licensee employees between Honolulu and Hilo, Hawaii, without any shipping papers describing the hazardous material. Also, on January 29, 1987 and August 18, 1987, an exposure device containing licensed material was transported on a non-civil passenger/cargo aircraft by a licensee employee between Johnston Island and Hickam Air Force Base, Hawaii, without any shipping papers describing the hazardous material.

This is a Severity Level I Violation (Supplement V).

- C. 10 CFR 71.12(a) grants a general license to any licensee for transport of licensed material in a package for which a Certificate of Compliance (COC) or other approval has been issued by the NRC.

10 CFR 71.12(c) limits this general license to a licensee who has a copy of the COC and who complies with the terms of the certificate.

The NRC Certificate of Compliance (Certificate No. 9053), issued on November 5, 1985 to Technical Operations, Inc. (Tech/Ops), requires the use of an 18-gauge steel drum protective overpack with a bolted and seal wire clamp closure ring as the acceptable package for the transport of the Tech/Ops Model 683 radiographic exposure device.

Contrary to the above, on February 9 and 14, 1987, the licensee shipped Tech/Ops Model 683 exposure device (serial number 75) inside a duffel bag without the required overpack between Honolulu and Hilo, Hawaii. Also, during 1987, the licensee routinely used a metal strongbox as a shipping container to transport the same Tech/Ops Model 683 exposure device to temporary job sites on the island of Oahu. The metal strongbox does not conform to the COC as an approved overpack for transport of the exposure device.

This is a Severity Level I violation (Supplement V).

- D. 49 CFR 172.403 requires appropriate "Radioactive" category labels that identify the activity and radioactive contents of packages

containing radioactive material. Determination of the proper label is based on the radiation dose rates at the surface and at one meter (transport index) from the package.

Contrary to the above, on eight occasions between January 29, 1987 and August 18, 1987, radiographic exposure devices containing licensed material were transported in containers between Honolulu and Hilo, Hawaii, and between Johnston Island and Hickam Air Force Base, Hawaii, without any "Radioactive" category labels.

This is a Severity Level I Violation (Supplement V).

- II. A. 10 CFR 34.31(b)(1) provides that the licensee shall not permit any individual to act as a radiographer's assistant until the individual has received copies of and instruction in the licensee's operating and emergency procedures.

License Condition 11 provides that licensed material shall be used by, or under the supervision of, Gordon Finlay or individuals who have completed the training program described in the letter dated February 28, 1983 with attached revised application, and letter dated August 2, 1983 with attachments. The "Training Program for Radiography Personnel", attached to the letter of August 2, 1983, requires that an individual receive twenty-four hours of initial classroom training before being allowed to work as an assistant radiographer.

Contrary to the above, the licensee violated these training requirements on several occasions:

1. On April 3, 1987 at Kilauea Military Camp, Hawaii, and on previous occasions at other job sites, a licensee employee worked as an assistant radiographer for the licensee without receiving any prior classroom training.
 2. During the period of February 9-13, 1987, a second licensee employee worked as an assistant radiographer for the licensee near Honokaa, Hawaii, even though he had not received a copy of or instruction in the licensee's operating and emergency procedures.
 3. During the period of June-July, 1987, a third licensee employee worked as an assistant radiographer for the licensee on Johnston Island without having completed any classroom training.
- B. 10 CFR 34.31(a)(1),(2) requires that the licensee not permit any individual to act as a radiographer until the individual has been instructed in the subjects outlined in Appendix A of 10 CFR Part 34, and has received copies of and instruction in 10 CFR Parts 19, 20, and 34, the NRC license, and the licensee's operating and emergency procedures.

License Condition 11 provides that licensed material shall be used only by, or under the supervision of, Gordon Finlay or individuals who have completed the training program described in the letter dated February 28, 1983 with attached revised application, and letter dated August 2, 1983 with attachments. The "Training Program for Radiography Personnel", which was attached to the letter of August 2, 1983, requires that an individual receive sixteen hours of classroom training and instruction in the use of radiographic exposure devices and the licensee's operating and emergency procedures. The licensee's training program also requires six months of on-the-job training as a radiographer's assistant before an individual is allowed to work as a radiographer.

Contrary to the above, two individuals had acted as radiographers on several occasions without completing all training requirements as follows:

1. During the period of May 14-21, 1987 at Campbell Industrial Park, Oahu, a licensee employee worked as a radiographer for the licensee without receiving any classroom training or instruction in the applicable NRC regulations, and without completing six months of prior on-the-job training as a radiographer's assistant.
2. During the periods of July 6-13, 1987 and August 18-22, 1987, a second licensee employee worked as a radiographer for the licensee on Johnston Island without receiving classroom training or copies of the licensee's operating and emergency procedures.

- C. 10 CFR 34.31(b)(3) requires that a licensee not permit any individual to act as a radiographer's assistant until that individual has demonstrated an understanding of the licensee's operating and emergency procedures and the ability to work under the personal supervision of a radiographer by successfully completing a written or oral examination and field examination.

License Condition 11 provides that licensed material shall be used only by, or under the supervision of, Gordon Finlay or individuals who have completed the training program described in the letter dated February 28, 1983 with attached revised application, and letter dated August 2, 1983 with attachments. The "Training Program for Radiography Personnel", which was attached to the letter of August 2, 1983, requires that previously experienced radiographers and radiographers' assistants provide evidence of qualification under an NRC license and satisfactorily complete the written examination given to new radiographers or assistant radiographers as appropriate.

Contrary to the above, three individuals had acted as assistant radiographers on several occasions without completing all examination requirements as follows:

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1. On April 3, 1987, a licensee employee acted as an assistant radiographer for the licensee, but did not complete the written examination until May 1, 1987.
 2. During the period of February 9-13, 1987, a second licensee employee, with prior radiography experience, acted as an assistant radiographer for the licensee without providing evidence of qualification under an NRC license and without completing a written examination.
 3. During the period of June-July, 1987, a third licensee employee acted as an assistant radiographer for the licensee without completing a written examination.
- D. 10 CFR 34.31(a)(4) requires that a licensee not permit an individual to act as a radiographer until that individual has demonstrated an understanding of the licensee's operating and emergency procedures, of 10 CFR Parts 19, 20 and 34, and of the NRC license under which the radiographer will perform radiography. This knowledge is to be demonstrated by the successful completion of a written test and field examination.

Contrary to the above, two individuals had acted as radiographers without completing all examination requirements as follows:

1. During the period of May 14-21, 1987, a licensee employee acted as a radiographer at Campbell Industrial Park, Oahu, without having completed the licensee's written and field examinations for qualification as a radiographer.
 2. On at least three occasions during the period of 1985-1986, a second licensee employee acted as a radiographer, without completing the licensee's written and field examinations for qualification as a radiographer.
- E. 10 CFR 34.44 requires that whenever a radiographer's assistant uses radiographic exposure devices and related equipment, or conducts radiation surveys during licensed radiography, the assistant must be under the personal supervision of a radiographer. The personal supervision must include the radiographer's personal presence at the jobsite, the radiographer's ability to give immediate assistance, and the radiographer observing the assistant's performance of radiographic operations.

Contrary to the above, an assistant radiographer of the licensee operated radiographic exposure devices and conducted radiation surveys without the personal supervision of a radiographer on several occasions during the period of May 14-21, 1987 at Campbell Industrial Park, Oahu.

- F. 10 CFR 34.41 requires the radiographer or radiographer's assistant to maintain direct surveillance of the operation to protect against unauthorized entry into a high radiation area during each radiographic operation.

Contrary to the above, licensee radiographers did not maintain direct surveillance over the operation to prevent unauthorized entry into the high radiation area during radiographic operations on or about July 13, 1987 and August 18, 1987 on Johnston Island.

- G. 10 CFR 20.201(b) requires the licensee to make surveys as necessary to evaluate the extent of radiation hazards that may be present and to assure compliance with 10 CFR Part 20.

Contrary to the above, a survey was not performed to determine the radiation levels external to the radiographic exposure device containing licensed material, prior to its shipment on January 29, 1987 on a passenger/cargo aircraft between Johnston Island and Hickam Air Force Base, Hawaii.

- H. 10 CFR 34.22(a) requires licensee personnel to lock each radiographic exposure device or to lock the device in its container when not under the direct surveillance of a radiographer or radiographer's assistant.

Contrary to the above, the licensee's Tech/Ops Model 660 radiographic exposure device and its container were unlocked and not under the surveillance of a radiographer or radiographer's assistant during the storage of the device and container on August 26, 1987 inside the bunker facility (Building 737) on Johnston Island.

- I. 10 CFR 20.207(a) requires that licensed materials stored in an unrestricted area be secured against removal from the place of storage. As defined in 10 CFR 20.3(a)(17), an unrestricted area is any area to which access is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials.

Contrary to the above, on at least one occasion during July and August, 1987, two radiographic exposure devices being stored in an unrestricted area (licensee's bunker, Building 737) on Johnston Island, were not secured against unauthorized removal, in that the door to the bunker storage cage containing the exposure devices was unlocked.

- J. 10 CFR 34.33(a) requires radiographers and radiographers' assistants to wear direct reading pocket dosimeters at all times during radiographic operations, and also requires that the pocket dosimeters be recharged at the start of each work shift.

1. Contrary to the above, a licensee employee did not wear a pocket dosimeter while working as an assistant radiographer during the period of February 9-13, 1987 at the "Big Island Meat" jobsite near Honokaa, Hawaii.

2. Contrary to the above requirements, the pocket dosimeter (serial number A4060) worn by a licensee radiographer was not recharged prior to its use for personnel monitoring at the start of the work shift during radiographic operations on August 31, 1987 at Campbell Industrial Park, Oahu.

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- K. 10 CFR 34.33(c) requires pocket dosimeters to be checked at periods not to exceed one year for correct response to radiation.

Contrary to the above, a pocket dosimeter (serial number 41248974) worn by licensee personnel on fifteen different occasions during radiographic operations in 1986-1987 had not been checked for proper response to radiation between May 2, 1984 and April 30, 1987, a period exceeding one year.

- L. 10 CFR 34.33(e) requires that records of the readings from pocket dosimeters which are worn by radiographers and assistant radiographers, be kept by the licensee for two years.

Contrary to the above, as of September 1, 1987, records had not been kept of the pocket dosimeter readings resulting from thirty-seven separate radiographic operations conducted during the period between October 4, 1986 and August 25, 1987, at job sites on Johnston Island and the islands of Maui, Oahu, and Hawaii.

- M. 10 CFR 34.11(d)(1) requires the licensee to have an inspection program which will audit the performance of each radiographer and radiographer's assistant during an actual radiographic operation at intervals not to exceed three months.

Contrary to the above, a licensee employee who had worked as a radiographer on fifty-two days during the period between July 1, 1987 and September 8, 1987 on Johnston Island, had not been audited since April 1, 1987, a period exceeding three months. This violation is also repetitive from the last NRC inspection of July 29-30, 1986.

- N. 10 CFR 34.11(d)(3) requires the licensee to maintain for three years the records of performance inspections of radiographers or radiographers' assistants which are made to comply with 10 CFR 34.11(d)(1).

Contrary to the above, as of September 1, 1987, the licensee had not maintained performance inspection records for a radiographer employee since the previous inspection on April 1, 1987.

- O. 10 CFR 34.27 requires that the licensee maintain logs, which are to be kept available for two years from the date of each radiographic operation, which identify: the exposure device used, the responsible radiographer, and the plant or site where used and dates of use.

Contrary to the above, as of September 1, 1987, the licensee had failed to maintain utilization logs of forty-seven separate radiographic operations performed between October 4, 1986 and August 25, 1987, at temporary job sites on Johnston Island and the islands of Maui, Oahu, and Hawaii.

- P. 10 CFR 34.42 requires the licensee to conspicuously post areas in which radiographic operations are being performed in accordance with the requirements of 10 CFR 20.203(b) and (c)(1).

1. 10 CFR 20.203(b) provides that each radiation area shall be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words: "Caution Radiation Area".

License Condition 16 requires that the licensee conduct its program in accordance with the statements, representations, and procedures contained in the attachment to the letter dated August 2, 1983. Procedure 3.a. of the attachment requires that the licensee post sufficient "Caution Radiation Area" signs to cover all access points into the restricted area during radiographic operations.

Contrary to the above, "Caution Radiation Area" signs were not posted by the licensee during radiographic operations on April 3 and 14, 1987 at Kilauea Military Camp, Hawaii, or at all entrances into the restricted area during radiographic operations on August 18, 1987 on Johnston Island.

2. 10 CFR 20.203(c)(1) provides that each high radiation area shall be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words: "Caution High Radiation Area".

Contrary to the above, "Caution High Radiation Area" signs were not posted during the following periods at the following radiography job sites:

(1) April 3, 1987	Kilauea Military Camp, Hawaii
(2) February 9-13, 1987	Big Island Meat Plant, Hawaii
(3) May 14-15, 1987	Campbell Industrial Park, Oahu
(4) May 19-21, 1987	Campbell Industrial Park, Oahu
(5) July 6-12, 1987	Johnston Island
(6) August 18-22, 1987	Johnston Island

- Q. 10 CFR 20.401(b) requires the licensee to maintain records showing the results of surveys required by 10 CFR 20.201(b), and the monitoring requirements of 10 CFR 20.205(c).

License Condition 16 requires that the licensee conduct its program in accordance with the statements, representations, and procedures contained in the attachment to the letter dated August 2, 1983. The operating and emergency procedures in the above attachment require that the results of radiation surveys of vehicles transporting licensed material be recorded using the form: "Radiation Survey Log".

1. Contrary to the above, as of September 1, 1987, the licensee had not maintained records of radiation surveys of unrestricted areas required by 10 CFR 20.201(b) on forty-seven separate

occasions between October 4, 1986 and August 25, 1987, at temporary job sites on Johnston Island and the islands of Maui, Oahu, and Hawaii.

2. Contrary to the above, as of September 1, 1987, the licensee had not maintained records of radiation surveys of shipping packages containing exposure devices required by 10 CFR 20.201(b) prior to their transport on February 9 and 14, 1987, and April 3 and 14, 1987, between Honolulu and Hilo, Hawaii.
3. Contrary to the above, as of September 1, 1987, the licensee had not maintained records of package radiation surveys required by 10 CFR 20.205(c) following the commercial transport and receipt of special form sources exceeding twenty curies within exposure devices for the following dates and locations:

(1) February 9, 1987	Hilo, Hawaii
(2) February 14, 1987	Honolulu, Oahu
(3) April 3, 1987	Hilo, Hawaii
(4) April 3, 1987	Honolulu, Oahu
(5) April 14, 1987	Hilo, Hawaii
(6) April 14, 1987	Honolulu, Hawaii
(7) August 18, 1987	Johnston Island
4. Contrary to the above, as of September 1, 1987, the licensee had not maintained records of radiation surveys of vehicles used for transporting licensed material in radiographic exposure devices on thirty-one occasions between October 4, 1986 and August 25, 1987.

- R. 10 CFR 34.43(d) requires each licensee to retain for three years the records of storage surveys of radiographic exposure devices which are made pursuant to 10 CFR 34.43(c), when the storage survey is the last one performed in the work day.

Contrary to the above, as of September 1, 1987, the licensee failed to maintain records of the final storage surveys on thirty-seven separate occasions following the use of exposure devices between October 4, 1986 and August 25, 1987, on Johnston Island and the islands of Maui, Oahu, and Hawaii.

- S. License Condition 16 requires that the licensee conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below:

- A. Application dated December 5, 1982
- B. Letter dated February 28, 1983
- C. Letter dated August 2, 1983

Procedure 10.a. and 10.c. of the enclosure to the letter dated August 2, 1983 requires the licensee to document the results of the daily inspection of exposure devices using the check list form: "Daily Inspection of Radiographic Exposure Devices and Storage

Containers". Procedure 9.a. of the same enclosure requires the licensee to maintain records of the daily inspections.

Contrary to the above, as of September 1, 1987, the licensee had not maintained records of the daily inspections of exposure devices that were used on fifty-five separate occasions during the period October 4, 1986 through August 25, 1987, on Johnston Island and the islands of Maui, Oahu, and Hawaii.

- T. 10 CFR 20.401(a) requires each licensee to maintain records showing the radiation exposure of all individuals for whom personnel monitoring is required under 10 CFR 20.202. These records shall be kept on Form NRC-5, in accordance with the instructions contained on that form or on clear and legible records containing all the information required by Form NRC-5.

Contrary to the above, as of September 1, 1987, the licensee had not maintained records showing the radiation exposure of an assistant radiographer who had worn a whole body badge, or licensee employees who had been issued spare whole body badges, between October 1, 1986 and March 31, 1987.

- U. 10 CFR 19.13(c) requires each licensee, on the request of a worker formerly engaged in licensed activities controlled by the licensee, to furnish to the worker a report of the worker's exposure to radiation or radioactive material. The licensee shall furnish the report within thirty days after the request is made or the exposure of the individual is determined.

Contrary to the above, as of September 2, 1987, an individual who terminated employment with the licensee during April, 1987 and at the same time requested a report of radiation exposure incurred during the period of employment with the licensee, had not received the report.

- V. 10 CFR 20.408(b) provides that when an individual terminates employment with a licensee who uses byproduct material for purposes of radiography, the licensee shall furnish to the NRC a report of the individual's exposures to radiation and radioactive material, incurred during the period of employment or work assignment in the licensee's facility. The report shall be furnished within thirty days after the licensee has determined the exposure of the individual or ninety days after the date of termination of employment, whichever is earlier.

Contrary to the above, as of September 2, 1987, the licensee had not submitted to the NRC a report of the radiation exposure received by one individual working as an assistant radiographer who terminated employment with the licensee during April, 1987.

- W. 10 CFR 34.31(c) requires the licensee to maintain, for three years, records of training of radiographers and assistant radiographers, including copies of written tests and dates of oral tests and field examinations.

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Contrary to the above, as of September 1, 1987, the licensee had not maintained a copy of the written examination which was administered to a trainee radiographer on August 4, 1986.

- X. 10 CFR 19.11(a) states, in part, that each licensee shall post current copies of the license, license conditions, or documents incorporated into a license by reference, and amendments thereto. 10 CFR 19.11(b) also states that if posting of a document specified above is not practicable, the licensee may post a notice which describes the document and states where it may be examined.

10 CFR 19.11(d) states that the licensee shall conspicuously post the documents referenced by 10 CFR 19.11(a) in a sufficient number of places to permit individuals engaged in licensed activities to observe them on the way to or from any licensed activity location to which the document applies.

Contrary to the above, on August 26, 1987 at the licensee's bunker (Building 737) on Johnston Island, the above documents were neither posted nor was there a notice which describes the documents and states where they may be examined.

Collectively, Violations II.A through X have been evaluated in the aggregate as a Severity Level II violation (Supplements IV, V, and VI).

Dated at Bethesda, Maryland
this 11th day of April 1988.

APR 11 1988

Finlay Testing Laboratories, Inc.

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