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EA-98-061 - Koch Engineering Company, Inc.

March 13, 1998

EA No. 98-061

Mr. Michael Flenniken
Regional Manager/Radiation Safety Officer
Koch Engineering Company, Inc.
Tru-Tec Division
31 Albe Drive, Suite 5
Newark, Delaware 19702

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY -\$4,400
(NRC Inspection Report No. 030-31174/97-002)

Dear Mr. Flenniken:

This refers to the special NRC inspection conducted on September 15, 1997, at your facility in Newark, Delaware, to review the circumstances associated with an event that you reported to the NRC on August 28, 1997. The event involved the August 27, 1997 shipment, via Federal Express, of a package containing three cesium-137 sources (containing 1, 18, and 100 millicuries, respectively), from your facility to the Wilmington, North Carolina Federal Express facility. After the package was picked up at the North Carolina Federal Express facility by Koch Engineering personnel, the sources were discovered to be missing. Later that day, the sources were discovered at the Memphis, Tennessee Federal Express facility under a slide used to transport packages. Subsequently, you and another employee went to the Memphis facility on August 29, 1998, to remove the sources from that Federal Express facility.

The NRC inspection was continued in the Region I office on January 20, 1998 to review evaluations of doses received by Federal Express workers in Memphis. That evaluation was provided to the NRC by a Federal Express representative on January 18, 1998. During the NRC inspection, three apparent violations of NRC requirements were identified, related to the transport of radioactive material. The violations were described in the NRC inspection report sent to you on February 12, 1998. On February 24, 1998, a Predecisional Enforcement Conference was conducted with you and Mr. Norman Lanier, Corporate Radiation Safety Officer (RSO), to discuss the violations, their causes, and your corrective actions. A copy of the enforcement conference report was sent to you by separate correspondence on February 27, 1998.

Based on the information developed during the inspection, and the information provided during the conference, the NRC has determined that three violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The most significant violation involves the failure, prior to shipment of radioactive material, to ensure by examination or appropriate tests, that each closure device of the package, was properly installed, secure, and free of defects. In the case of the August 1997 shipment where three bolts, each containing a sealed source, were missing for a short period, the three sources were shipped in a 10-inch tall shipping container with lead shielding and a circular removable plug at the top of the cylinder. The bolts containing the sources were placed inside the shipping container, and the plug was inserted and secured by placing plastic ties and a combination lock through metal eyes on the body of the shipping container. During the inspection,

the NRC learned that after closing the padlock, you, as the RSO at the Newark facility, did not normally check to assure that the hasp was secure. As a result of the failure to perform this check, you failed to ensure that the padlock was secure. The lack of a secure padlock was the likely cause of the release of the sources from the shielded container while at the Federal Express facility in Memphis.

The NRC recognizes that after this incident in August 1997, you implemented immediate corrective actions, and on September 18, 1997, the NRC issued you a Confirmatory Action Letter (CAL) confirming, in part, your commitments to (1) cease using the Master Lock No. 175 padlock as a security mechanism when shipping radioactive material, and replace it with a bolt and nut security mechanism, including a tamper seal to be placed behind the nut to prevent the nut from backing off the bolt during shipment; (2) remind shipping personnel to double check the security mechanism prior to shipment to ensure its integrity; and (3) provide evaluations of doses received by all individuals (including Tru-Tec and Federal Express employees), who were exposed to and/or came in contact with the sources involved in this event. Nonetheless, this violation constitutes a significant NRC concern since it created the potential for significant exposure to members of the public.

In a dose assessment obtained from Federal Express on January 18, 1998, Federal Express indicated that the maximum exposure received by a Federal Express employee as a result of this event was 5.5 rem to the extremities, noting that the individual's film badge indicated a dose of 90 millirem to the whole body for the month of August 1997. Although, in this case, the dose to an individual member of the public was below the regulatory limits as specified in 10 CFR Part 20, the violation, nonetheless, caused the loss of control of radioactive material via the breach in the package's integrity, and there was a clear potential for a member of the public (such as a Federal Express worker), to receive more than 100 mrem to the whole body. Therefore, this violation, which is set forth in Section I of the enclosed Notice, is classified at Severity Level II in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$4,400 is considered for a Severity Level II violation. Since this violation in Section I is classified at Severity Level II, the NRC considered, consistent with the enforcement policy, whether credit was warranted for both *Identification and Corrective Action*. Credit for identification is not warranted since the violation was identified by the NRC during its inspection to follow up this event. Credit for corrective action is warranted because your actions, at the time of the enforcement conference, were both prompt and comprehensive. These actions, which were noted in the inspection report and/or at the conference, some of which were already described herein, also included distributing to staff at your Delaware location, and other sites around the country, two memoranda covering this shipping incident and related corrective actions, as well as a description of the quality control requirements for shipping sealed sources.

Therefore, consistent with the enforcement policy, to emphasize the importance of appropriate control of shipments from the facility, I have decided, after consultation with the Director, Office of Enforcement, to propose a civil penalty in the amount of \$4,400 in this case.

Two other violations identified during the inspection are described in Section II of the Notice and are classified at Severity Level IV.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. In your response, you should also confirm the commitments you made at the conference, and during the inspection. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, will be placed in the NRC Public Document Room (PDR).

Sincerely,

Hubert J. Miller
Regional Administrator
Docket No. 030-31174
License No. 07-28386-01

Enclosure: Notice of Violation and Proposed Imposition of Civil Penalty

cc w/encl:

State of Delaware
State of Tennessee
State of North Carolina
State of Michigan
US Department of Transportation

NOTICE OF VIOLATION

Koch Engineering Company, Inc. Docket No. 030-31174
Tru-Tec Division License No. 07-28386-01
Newark, Delaware EA 98-061

During an NRC inspection conducted on September 15, 1997, and continued in the Region I office on January 20, 1998, upon receipt of a dose evaluation from the Federal Express Company on January 18, 1998, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG-1600, the NRC proposes a civil penalty pursuant to Section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282 and 10 CFR 2.205. The violations and associated civil penalty are set forth below:

I. VIOLATION ASSESSED A CIVIL PENALTY

10 CFR 71.5(a) requires that a licensee who transports licensed material outside of the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR Parts 170 through 189.

49 CFR 173.475 requires, in part, that before each shipment of any radioactive materials package, the offeror must ensure, by examination or appropriate tests, that each closure device of the packaging, including any required gasket, is properly installed, secured, and free of defects.

Contrary to the above, prior to September 15, 1997, the licensee had failed to ensure, by examination or test, that each closure device was properly installed, secured, and free of defects before each shipment of packages containing radioactive material. Specifically, the licensee did not ensure that the Master Lock No. 175 padlock attached to the packages were examined or tested in that the individual responsible for installing the padlock did not pull on the lock after it was closed to ensure that it was secure.

This is a Severity Level II problem (Supplement V)

Civil Penalty - \$4,400

II. VIOLATIONS NOT ASSESSED A CIVIL PENALTY

10 CFR 71.5(a) requires that a licensee who transports licensed material outside of the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, comply with the applicable requirements of the regulations appropriate to the mode of transport of the DOT in 49 CFR Parts 170 through 189.

1. 49 CFR 173.415(a) requires, in part, that each offeror of a Specification 7A package must maintain on file for at least one year after the latest shipment, and shall provide to DOT on request, complete documentation of tests and an engineering evaluation or comparative data showing that the construction methods, packaging design, and materials of construction comply with that specification.

Contrary to the above, as of September 15, 1997, the licensee shipped millicurie quantities of cesium-137, in sealed sources, in an approved Type A package, and the licensee did not maintain, for a period of at least one year following that shipment, complete documentation of tests and an engineering evaluation or comparative data showing that the package complied with the applicable specification. Specifically, the documentation did not include the total weight of the package, thus providing incomplete documentation of Type A packaging tests. **(02014)**

This is a Severity Level IV problem (Supplement V)

2. 49 CFR 172.704(c) requires, in part, that a hazmat employee receive initial training, and recurrent training at least once every three years.

Contrary to the above, as of September 15, 1997, a hazmat employee did not receive recurrent training at least once every three years. Specifically, the Radiation Safety Officer, a hazmat employee, had not received recurrent training since 1989. **(03014)**

This is a Severity Level IV problem (Supplement V)

Pursuant to the provisions of 10 CFR 2.201, Koch Engineering Company, Inc., Tru-Tec Division is required to submit a written statement or explanation to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, within 30 days of the date of this Notice of Violation and Proposed Imposition of Civil Penalty (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each alleged violation: (1) admission or denial of the alleged violation, (2) the reasons for the violation if admitted, and if denied, the reasons why, (3) the corrective steps that have been taken and the results achieved, (4) the corrective steps that will be taken to avoid further violations, and (5) the date when full compliance will be achieved. If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as why the license should not be modified, suspended, or revoked or why such other action as may be proper should not be taken. Consideration may be given to extending the response time for good cause shown. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, this response shall be submitted under oath or affirmation.

Within the same time as provided for the response required above under 10 CFR 2.201, the Licensee may pay the civil penalty by letter addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, with a check, draft, money order, or electronic transfer payable to the Treasurer of the United States in the amount of the civil penalty proposed above, or the cumulative amount of the civil penalties if more than one civil penalty is proposed, or may protest imposition of the civil penalty in whole or in part, by a written answer addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission. Should the Licensee fail to answer within the time specified, an order imposing the civil penalty will be issued. Should the Licensee elect to file an answer in accordance with 10 CFR 2.205 protesting the civil penalty, in whole or in part, such answer should be clearly marked as an "Answer to a Notice of Violation" and may: (1) deny the violation listed in this Notice, in whole or in part, (2) demonstrate extenuating circumstances, (3) show error in this Notice, or (4) show other reasons why the penalty should not be imposed. In addition to protesting the civil penalty in whole or in part, such answer may request remission or mitigation of the penalty.

In requesting mitigation of the proposed penalty, the factors addressed in Section VI.B.2 of the Enforcement Policy should be addressed. Any written answer in accordance with 10 CFR 2.205 should be set forth separately from the statement or explanation in reply pursuant to 10 CFR 2.201, but may incorporate parts of the 10 CFR 2.201 reply by specific reference (e.g., citing page and paragraph numbers) to avoid repetition. The attention of the Licensee is directed to the other provisions of 10 CFR 2.205, regarding the procedure for imposing a civil penalty.

Upon failure to pay any civil penalty due which subsequently has been determined in accordance with the applicable provisions of 10 CFR 2.205, this matter may be referred to the Attorney General, and the penalty, unless compromised, remitted, or mitigated, may be collected by civil action pursuant to Section 234c of the Act, 42 U.S.C. 2282c.

The response noted above (Reply to Notice of Violation, letter with payment of civil penalty, and Answer to a Notice of Violation) should be addressed to: James Lieberman, Director, Office of Enforcement, U.S. Nuclear

Regulatory Commission, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852-2738, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region I.

Because your response will be placed in the NRC Public Document Room (PDR), to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Dated at King of Prussia, Pennsylvania
this 13th day of March 1998

Page Last Reviewed/Updated Monday, July 06, 2015