

MEDIQ IMAGING SERVICES, INC.

November 20, 1990

U.S. Nuclear Regulatory Commission
 ATTN: Document Control Desk
 Washington, D.C. 20555

Reply to a Notice of Violation

Refer: Docket No. 830-18665
 License No. 15-24485-01
 EA 90-173

Violation A

Subject: 49 CFR 172.200(a)--Shipping papers

Reason for violation:

Licensee believed that the DOT regulations applied only when the radioactive shipment changed hands during transportation. In no past inspection was the issue raised. A copy of the information notice, 90-35 had never been received which details requirements for transportation. Further, no mention of DOT regulations or compliance with regulations was included on the License No. 15-24485-01 which had just been renewed. So that the licensee fully believed the terms of the license were being fulfilled.

The licensee, following the conference call with the NRC, received an unsolicited amendment to this new license with item 15 added which stated, "The licensee may transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material." " At the time the violations were identified, this item was not a part of the license.

Corrective action:

An inservice was provided to the technologists on October 15, 1990 to acquaint them with the requirements. Shipping papers were prepared and are now being carried by each driver within his reach during transport. The papers are filled out so that each syringe is identified along with its destination. When that syringe is used, it is so noted on the papers and recorded as RESIDUE: Last Contained.. as required in 49 CFR 172.203e. Exhibit A is a copy of a completed shipping paper. The shipping papers will be stored for 3 years.

Corrective action to prevent further violations:

An audit will be conducted on a quarterly basis to insure compliance with regulations.

7101 COLLEGE BLVD. SUITE 1320

OVERLAND PARK, KS 66210

913 345-0078

1-800-543-2176

9012040009 901126
 REGS LIC30
 15-24485-01 PDC

IFIA
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MEDIQ IMAGING SERVICES, INC.

Date when full compliance was achieved:
Full compliance was achieved was October 16, 1990.

Violation B

Subject: 49 CFR 173.415(a) Documentation of Specification
7A Package Requirements

Reason for violation:
Mediq Imaging Services had inquired of Mallinckrodt
Radiopharmaceuticals of appropriate cases for transporting
radioactive materials. They had been directed to the cases
observed by the inspector which were advertised as DOT ap-
proved. They did not, however, know of the requirement of
documentation.

Corrective action:

An insert was provided to the technologists on October 15,
1990 to acquaint them with the requirements. Mediq Imaging
Services purchased surplus ammunition cases and Diagnostic
Technology Consultants, Inc. tested one of the cases accord-
ing to 49 CFR 173.465 verifying that the cases were designed
and constructed so that they met the standards for Type A
packaging. Documentation of this test is on file at each
laboratory of Mediq Imaging and at the Kansas City regional
office. A copy of the testing documentation is appended as
Exhibit B.

Corrective action to prevent further violations:
In the future, only cases approved by DOT for a Specification
7A package will be used and the appropriate documentation
maintained on file. An audit will be conducted on a quar-
terly basis to insure compliance with regulations.

Date when full compliance was achieved:
Full compliance was achieved was October 16, 1990.

Violation C

Subject: 49 CFR 172.403(a)--Information on Radioactive label
Reason for violation:
Licensee believed that the DOT regulations applied only when
the radioactive shipment changed hands during transportation.
In no past inspection, was the issue raised. A copy of the
information notice, 90-35 had never been received which de-
tails requirements for transportation.

MEDIQ IMAGING SERVICES, INC.

Date when full compliance was achieved:
Full compliance was achieved was October 16, 1990.

Violation B

Subject: 49 CFR 173.415(a) Documentation of Specification 7A Package Requirements

Reason for violation:

Mediq Imaging Services had inquired of Mallinckrodt Radiopharmaceuticals of appropriate cases for transporting radioactive materials. They had been directed to the cases observed by the inspector which were advertised as DOT approved. They did not, however, know of the requirement of documentation.

Corrective action:

An inservice was provided to the technologists on October 15, 1990 to acquaint them with the requirements. Mediq Imaging Services purchased surplus ammunition cases and Diagnostic Technology Consultants, Inc. tested one of the cases according to 49 CFR 173.465 verifying that the cases were designed and constructed so that they met the standards for Type A packaging. Documentation of this test is on file at each laboratory of Mediq Imaging and at the Kansas City regional office. A copy of the testing documentation is appended as Exhibit B.

Corrective action to prevent further violations:

In the future, only cases approved by DOT for a Specification 7A package will be used and the appropriate documentation maintained on file. An audit will be conducted on a quarterly basis to insure compliance with regulations.

Date when full compliance was achieved:
Full compliance was achieved was October 16, 1990.

Violation C

Subject: 49 CFR 172.403(a)--Information on Radioactive label

Reason for violation:

Licensee believed that the DOT regulations applied only when the radioactive shipment changed hands during transportation. In no past inspection, was the issue raised. A copy of the information notice, 90-35 had never been received which details requirements for transportation.

MEDIC IMAGING SERVICES, INC.

Corrective action:

An inservice was provided to the technologists on October 13, 1990 to acquaint them with the requirements. Radioactive White I and Yellow II labels are affixed to all shipments, as appropriate. As each shipment leaves the laboratory, the radionuclides in the package are marked on the label, the activity in units of mCi or uCi and the transport index if the label is a Yellow II. The marking is weather resistant and durable.

Corrective action to prevent further violations:

An audit will be conducted on a quarterly basis to insure compliance with regulations.

Date when full compliance was achieved:

Full compliance was achieved was October 16, 1990.

Violation D

Subject: 49 CFR 172.301--Identification number

Reason for violation:

Licensee believed that the DOT regulations applied only when the radioactive shipment changed hands during transportation. In no past inspection, was the issue raised. A copy of the information notice, 90-35 had never been received which details requirements for transportation.

Corrective action:

An inservice was provided to the technologists on October 15, 1990 to acquaint them with the requirements. The appropriate identification number is affixed to each shipment.

Corrective action to prevent further violations:

An audit will be conducted on a quarterly basis to insure compliance with regulations.

Date when full compliance was achieved:

Full compliance was achieved was October 16, 1990.

Violation E

Subject: 49 CFR 173.475(1)--Wipe Tests

Reason for violation:

Licensee believed that the DOT regulations applied only when the radioactive shipment changed hands during transportation. In no past inspection, was the issue raised. A copy of the information notice, 90-35 had never been received which details requirements for transportation.

MEDIQ IMAGING SERVICES, INC.

Corrective action:

An inservice was provided to the technologists on October 15, 1990 to acquaint them with the requirements. The contamination levels on the exterior of the package and the radiation levels are checked before the package is placed in the truck to assure it is within the allowable limits.

Corrective action to prevent further violations:

An audit will be conducted on a quarterly basis to insure compliance with regulations.

Date when full compliance was achieved:

Full compliance was achieved was October 16, 1990.

Sincerely yours,



James Francis
Director of Operations

11. 27. 90 03:43 PM

P04

EXHIBIT A

MEDIC IMAGING SERVICES, INC

7101 College Blvd. Suite 1330
Overland Park, KS 66210

800-543-2170
313-346-0070

NRC Byproduct License Number 16-2445-01

Product Description and Technical Data

11-15-90

(Isotope) (Activity (mCi)) (Calib. Time) (Chem. Form) (Phys. Form)

Packing and Shipping Information
Radioactive Materials, D.O.T.,
UN2912

Transport Label (Index) (mR/hr at Surface of outer Package) (Dose rate) (Type test) (Surface of container) (Destination)

Shipment Box 1

(dpm)

RESIDUE

Tc^{99m} 20 0720 HDP Liquid

I None <0.5 160 Ex. Springs

" " " " " "

" " " " " "

" " " " " "

" " " " " "

" 6 " TcO₄ "

" " " " " "

" 11 " DTPA "

" " " " 15 CAMEROH

Shipment Box 2

(dpm)

RESIDUE

Tc^{99m} 20 1245 HDP Liquid

I None <0.5 320 SPLURCS

" " " " " "

" " " " " "

" 4 " TcO₄ "

" " " " " "

NOT USED TO DECAT

" 11.0 " DTPA "

" " " " " "

RESIDUE

" 11.0 " " " "

" " " " " "

" 11.0 " " " "

" " " " " "

This is to certify that the above named articles are properly classified, described, packaged, marked and labeled and are in proper condition for transportation, according to the applicable regulation of the Department of Transportation.

Packing slip from: Medic Imaging Services, Inc., 924 Main Street, Lexington, MO 64657

Exhibit B

RECORD OF PACKAGE TESTING
for
COMPLIANCE WITH DOT SPECIFICATION 7A, TYPE A PACKAGES

BOX DESCRIPTION

Box Tested: Ammunition Can of the set to be used
by Mediq Imaging Services

Box Size: 12 x 6 x 7.25 inches

Box description: Metal box, with a sealing, de-
tachable lid which latches securely. Box is
painted an army khaki color.

Identification marking: LC-87K006-184 in yellow
paint

TESTING PROCEDURE

Date of Testing: October 5, 1990

Test performed by: Diagnostic Technology Consult-
ants, Inc.

Persons involved in testing:

Jon Erickson, PhD

Audrey Wegst, PhD

of

Diagnostic Technology Consultants, Inc.

Ed Crouch

Operations Manager

of

Mediq Imaging Services

TEST CONDITIONS

The conditions set forth in 49 CFR 173.465 were
followed.

TESTING

Water Spray Test

This test preceded the following tests. The box was sprayed with a constant spray of water for one hour, 10 minutes in a configuration so that the water sprayed all four sides and top simultaneously. The water sprayed at a rate of 215 inches per hour.

At the conclusion of this test the metal box was intact and the inside completely dry.

Temperature Test

This test immediately followed the water spray test. Dry ice (solid carbon dioxide at a temperature of -76 degrees C) was placed in the box with water for 20 minutes. Following this procedure, the box was placed in an oven at 100 degrees C for 30 minutes.

At the conclusion of this test, the metal box was intact with no evidence of damage. The box seal was intact as the sides of the box expanded slightly during the heating portion of the test indicating a pressure build up from the temperature of the trapped air.

Free Drop Test

This test consisted of dropping the test box from a height of 30 feet to a cement pad. The measured distance was from the lowest part of the box to the upper surface of the cement pad.

At the conclusion of this test, the metal box showed a slight buckling of the lid, however, the fastener remained intact and the integrity of the box was not compromised.

Compression Test

This test consisted of placing a 20 pound weight on the top of the box for 24 hours. The weight of the box is 5.5 pounds.

At the conclusion of this test, the metal box showed no damage. No evidence of crushing or other failure could be noted.

Penetration Test

This test consisted of dropping a metal bar 1.25 inches in diameter, 30 inches long and weighing 30 pounds from a distance of 6 feet as measured from the rounded end of the bar to the top of the box. The box was placed on a cement pad, providing a flat, horizontal surface which did not move while the test was performed. The placement of the box on the pad was so that the weakest part of the box was struck by the bar, that is, the bar struck one of the sides of the box which presented the largest area.

At the conclusion of this test, the box was dented by the bar but the metal side of the box was not penetrated. The box did not leak any water when filled after this test.

CONCLUSIONS

This species of ammunition box meets DOT specifications for acceptability for Type A radioactive liquid sources and special form Type A radioactive sources.