

APPENDIX A

NOTICE OF VIOLATION

Montana State University  
Bozeman, Montana 59717

Docket: 030-00871  
License: 25-00326-06

During an NRC inspection conducted on November 3-4, 1993, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations are listed below:

A. License Condition 24 requires, in part, that licensed material be used in accordance with the statements, representations, and procedures contained in the application dated September 24, 1982, and letter dated October 14, 1983.

1. Item 1B of the letter dated October 14, 1983, states that the Radiation Sources Committee will review work in process and exposure records to further implement the ALARA commitment. These reviews are to include, in part, (1) an examination of the exposure records from film badge use each year, and (2) an audit of the amounts of radioisotopes purchased and disposed under various proposals each year. From these figures one or two projects will be selected for a detailed review involving additional input from the project supervisor so that the RSC can establish whether the amounts used are reasonably consistent with the results obtained.

Contrary to the above, between September 13, 1991, and November 4, 1993, the licensee's Radiation Sources Committee had not examined the exposure records from film badge usage each year, nor had an audit been performed of the amounts of radioisotopes purchased and disposed under various proposals each year.

This is a Severity Level IV violation (Supplement VI).

2. Item 2 of the supplemental letter dated October 14, 1983, states, in part, that G-M type survey meters which are used most frequently for checking incoming packages and for surveys will be checked (calibrated) at intervals of approximately 6 months by taking a series of readings at various distances from a cesium-137 source with a nominal activity of 30 millicuries.

Contrary to the above, between September 13, 1991, and November 4, 1993, the licensee's G-M type survey meters used for checking incoming packages had not been checked at 6-month intervals by taking readings at various distances from a cesium-137 source. Specifically, survey meters with

serial numbers 85591, 98140, 80356, and 032697 had not been calibrated at the required frequencies.

This is a Severity Level IV violation (Supplement VI).

This is a repeat violation.

3. Item 3 of the supplemental letter dated October 14, 1983, states that experiments using iodine-125 for iodinations of proteins or cells will be performed in a specially designed (fume) hood equipped with a Bendix 4-19102 air sampler. This air sampler is used to draw measured air samples through charcoal filters which can then be counted.

Contrary to the above, between September 13, 1991, and November 4, 1993, fume hoods used for performing iodinations with iodine-125 were not equipped with a Bendix 4-19102 air sampler. Specifically, the fume hood located in Linfield Hall, Room 123A, was used to perform iodinations during the specified period, and an air sampler was not in place during these procedures.

This is a Severity Level IV violation (Supplement VI).

This is a repeat violation.

4. Item 14 of the supplemental letter dated October 14, 1983, states that the "instructions to workers" are intended as a first step in the training or retraining of persons working under a particular proposal. Individuals supervising persons working with millicurie amounts of radioisotopes should provide further training in this area either by themselves or working through the Radiological Safety Officer.

The Radiation Sources Committee will check the individual projects selected for audit each year to ensure that further training is proceeding and that at least part of this training is recorded.

Contrary to the above, between September 13, 1991, and November 4, 1993, the Radiation Sources Committee had not selected individual projects for audit nor checked individual projects to ensure that further training was proceeding.

This is a Severity Level IV violation (Supplement VI).

5. Item 16D(5) of the supplemental letter dated October 14, 1983, states that projects involving the use of

quantities of radioactive materials larger than 10 times the (applicable) limits specified in Appendix C to 10 CFR Part 20 will receive visits, inspections, and/or surveys approximately four times a year, at intervals of 6 months or less.

Contrary to the above, between September 13, 1991, and November 4, 1993, laboratories using quantities of radioactive materials larger than 10 times the applicable limits specified in Appendix C to 10 CFR Part 20 did not receive visits, inspections, and/or surveys at the intervals specified above. Specifically, the laboratories located in Johnson Hall Rooms 725 and 815, and Linfield Hall Room 123A were not visited, inspected, or surveyed at the specified frequency.

This is a Severity Level IV violation (Supplement VI).

6. Item 16G of the supplemental letter dated October 14, 1983, states, in part, that new film badges are distributed and old film badges are returned once each month.

Contrary to the above, between September 13, 1991, and November 4, 1993, several film badges were not returned for processing each month. Specifically, individuals assigned film badge numbers 87, 88, 234, 304, 332, 337, 338, and 339 had not sent their film badges in for processing for periods of up to 5 months after the date of issuance.

This is a Severity Level IV violation (Supplement IV).

7. Item 16I of the supplemental letter dated October 14, 1983, states, in part, that for transportation of radioactive material offsite (portable moisture/density gauges), when secretaries receive notification of a trip to a field site, they will convey the information directly to the RSO and that in approximately 10 percent of the cases, the vehicle will be examined and surveyed by the RSO or a designated representative.

Contrary to the above, between September 13, 1991, and November 4, 1993, the RSO or a designated representative had not examined and surveyed approximately 10 percent of the vehicles transporting radioactive material offsite. Specifically, of approximately 60 shipments of radioactive material offsite during calendar year 1993, none of the vehicles were examined or surveyed by the RSO or his designated representative.

This is a Severity Level IV violation (Supplement VI).

- B. 10 CFR 20.201(B) requires that each licensee make such surveys as may be necessary to comply with the requirements of Part 20 and which are reasonable under the circumstances to evaluate the extent of radiation hazards that may be present. As defined in 10 CFR 20.201(a), "survey" means an evaluation of the radiation hazards incident to the production, use, release, disposal, or presence of radioactive materials or other sources of radiation under a specific set of conditions.

Contrary to the above, as of November 4, 1993, the licensee did not make surveys to assure compliance with that part of 10 CFR 20.101 that limits the radiation exposure to the whole body to 1.25 rems per calendar quarter. Specifically, on several occasions, film badges worn by individuals had not been returned for processing for periods of up to 5 months and an evaluation of these individual's exposures had not been performed to assure compliance with 10 CFR 20.101.

This is a Severity Level IV violation (Supplement IV).

- C. 10 CFR 30.35(g) requires, in part, each person licensed under 10 CFR Part 30 or Parts 32-35 shall keep records of information important to the safe and effective decommissioning of the facility in an identified location until the license is terminated by the Commission. Information the Commission considers important to decommissioning consists, in part, of: (1) records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site, (2) as-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and (3) records of cost estimates performed for the decommissioning funding plan or the amount of the certified for decommissioning, and the method used for assuring funds if either a funding plan or certification is used.

Contrary to the above, as of November 4, 1993, the licensee had not kept records of information important to the safe and effective decommissioning of the facility in an identified location.

This is a Severity Level IV violation (Supplement VI).

- D. 10 CFR 71.5(a) requires that a 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, comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR Parts 170-189.

1. 49 CFR 177.817(a) requires that a carrier not transport a hazardous material unless it is accompanied by a shipping paper prepared in accordance with 49 CFR 172.200-203. Pursuant to 49 CFR 172.101, radioactive material is classified as hazardous material.

Contrary to the above, on several occasions between September 13, 1991, and November 4, 1993, the licensee transported licensed material outside the confines of its plant, and the shipping papers accompanying the shipment were not prepared in accordance with 49 CFR 172.200-203. Specifically, the shipping papers prepared for the licensee's portable moisture/density gauges containing radioactive sources did not contain the proper hazardous materials description, shipping name, and identification number.

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

2. 49 CFR 173.415(a) requires that each shipper of a DOT Specification 7A Type A package must maintain on file for at least one year after the latest shipment a complete documentation of tests and an engineering evaluation or comparative data showing that the construction methods, packaging design, and materials of construction comply with the specification as described in 49 CFR 178.350.

Contrary to the above, as of November 4, 1993, the licensee shipped its portable moisture/density gauges containing americium-241 and/or cesium-137 in a package marked DOT Specification 7A Type A and did not maintain for a period of at least 1-year following that shipment documentation of tests and an engineering evaluation or comparative data showing that the package complied with the applicable DOT specification.

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

3. 49 CFR 173.476(a) requires, in part, that each shipper of special form radioactive materials maintain on file, for at least 1-year after the latest shipment, a complete safety analysis that demonstrates that the special form material meets the requirements of 49 CFR 173.469. 49 CFR 173.469(b) specifies the test to be conducted for the safety analysis.

Contrary to the above, as of November 4, 1993, the licensee shipped packages containing americium-241 and/or cesium-137 in special form and did not maintain for a period of at least 1-year following each shipment documentation that the special form material met the requirements of 49 CFR 173.469.

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

Pursuant to the provisions of 10 CFR 2.201, Montana State University is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555, with a copy to the Regional Administrator, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) 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 to show cause why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

Dated at Arlington, Texas  
this 3rd day of January 1994