

Procedure for Reporting Radiological Events

This is a procedure for determining if a radiological event is reportable to the Vermont Department of Health, which outlines the steps that need to be taken. When emergency medical services, the fire department or law enforcement is required for a life-threatening incident, the first call should be to 911 to obtain those services. Immediate notification to the Local Law Enforcement Agency (LLEA) is required after determining that an unauthorized entry resulted in an actual or attempted theft, sabotage, or diversion of a category 1 or category 2 quantity of radioactive material (see Appendix A to Part 37 —Category 1 and Category 2 Radioactive Materials). To report these incidents to the Vermont Department of Health Radiological Health Program use Vermont Emergency Management’s toll-free number 800-347-0488 24 hours a day, 365 days a year.

Key Emergency Contact Numbers

Vermont Emergency Management: 800-347-0488

Local Emergency Response: 911

Local Law Enforcement Agency: 911

IMMEDIATE (WITHIN 4 HOURS OR LESS) NOTIFICATION FOR ANY OF THE FOLLOWING:
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Reports of **removable contamination on package** greater than the limits in 10 CFR 71.87 (See Table 9, 49 CFR 173.443). 10 CFR 20.1906(d)(1).

Radiation levels on package greater than the limits in 10 CFR 71.47, 10 CFR 20.1906(d)(2).

Reports of **lost, stolen, or missing licensed material** greater than or equal to 1000 times Appendix C to 10 CFR Part 20 value under such circumstances that it appears to the licensee that an exposure could result to persons in unrestricted areas. 10 CFR 20.2201(a)(i).

Exposure (real or threatened) greater than or equal to TEDE of 0.25 Sv (25 rem), or lens dose equivalent greater than or equal to 0.75 Sv (75 rem), or shallow dose equiv. (skin\extremities) greater than or equal to 2.5 Gy (250 rads). 10 CFR 20.2202(a)(1).

Release where individual could have intake greater than or equal to 5 times the annual limit on intake (ALI) over 24 hours. 10 CFR 20.2202(a)(2).

Events involving **prevention of immediate protective actions**, necessary to avoid exposures to radiation, radioactive materials, or releases of radioactive material that could exceed regulatory limits. 10 CFR 30.50(a) (byproduct material), 10 CFR 40.60(a) (source material), 10 CFR 70.50(a) (special nuclear material).

Well logging source rupture. 10 CFR 39.77(a).

Theft or loss of radioactive materials, radiation overexposures, or excessive levels and concentrations of radiation. 10 CFR 39.77(b).

Events involving **failure of licensees to comply with** the applicable requirements of the **Department of Transportation regulations** in 49 CFR. 10 CFR 71.5.

Events involving **hazardous materials**, including radioactive materials per 49 U.S.C. 5103(a) require the immediate reporting of incidents involving hazardous materials that **result in an individual's death, injury** requiring hospitalization, **evacuation** of the general public for at least one hour, the operational flight pattern or routine of an **aircraft is altered**, or the **closure** of one or more major **transportation** facility or artery for at least one hour. 49 CFR 171.15 (b)(1).

Reporting of **fire, breakage, spillage, or suspected radioactive contamination** that occurs involving the shipment of radioactive material. 49 CFR 171.15(b)(2).

Immediate notification to the Local Law Enforcement Agency (LLEA) after determining that an **unauthorized entry** resulted in an actual or attempted theft, sabotage, or diversion of a category 1 or category 2 quantity of radioactive material (see Appendix A to Part 37 —Category 1 and Category 2 Radioactive Materials). As soon as possible after initiating a response, but not at the expense of causing delay or interfering with the LLEA response to the event, the licensee shall notify the Department via Vermont Emergency Management at 800-347-0488. In no case shall the notification to the Department be later than 4 hours after the discovery of any attempted or actual theft, sabotage, or diversion. 10 CFR 37.57.

Requires the licensee to assess any **suspicious activity** related to possible theft, sabotage, or diversion of category 1 or category 2 quantities of radioactive material and to notify the LLEA as appropriate. As soon as possible, but not later than 4 hours after notifying the LLEA, the licensee shall notify the Department via Vermont Emergency Management at 800-347-0488. 10 CFR 37.57.

Notify the Health Department via Vermont Emergency Management at 800-347-0488 and the NRC's Operations Center at 301-816-5100 if the results from an FBI identification and criminal history records check indicate that an **individual is identified on the FBI's Terrorist Screening Database**.

24 HOUR EVENT REPORTING

Release where, had an individual been present for 24 hours, individual could have intake greater than the occupational ALI over 24 hours. 10 CFR 20.2202(b)(2).

Events involving **unplanned contamination** that: (i) requires access to the contaminated area, by workers or the public, to be restricted for more than 24 hours by imposing additional radiological controls or by prohibiting entry into the area; (ii) involves a quantity of material greater than five times the lowest annual limit on intake specified in Appendix B of 10 CFR part 20 for the material; and (iii) has access to the area restricted for a reason other than to allow isotopes with a half-life of less than 24 hours to decay prior to decontamination. 10 CFR 30.50(b)(1) (byproduct material), 10 CFR 40.60(b)(1) (source material), 10 CFR 70.50(b)(1) (special nuclear material).

Events in which **equipment is disabled or fails to function** as designed when: (i) the equipment is required by regulation or license condition to prevent releases exceeding regulatory limits, to prevent exposures to radiation and radioactive materials exceeding regulatory limits, or to mitigate the consequences of an accident; (ii) the equipment is required to be available and operable when it is disabled or fails to function; and (iii) no redundant equipment is available and operable to perform the required safety function. 10 CFR 30.50(b)(2) (byproduct material), 10 CFR 40.60(b)(2) (source material), 10 CFR 70.50(b)(2) (special nuclear material).

Events requiring **unplanned medical treatment at a medical facility** of an individual with spreadable radioactive contamination on the individual's clothing or body. 10 CFR 30.50(b)(3) (byproduct material), 10 CFR 40.60(b)(3) (source material), 10 CFR 70.50(b)(3) (special nuclear material).

Events involving **unplanned fire or explosion** affecting integrity of material, device or container, or equipment containing licensed material when the quantity of material involved is greater than five times the lowest annual limit on intake specified in Appendix B of 10 CFR Part 20 for that material, and the damage affects the integrity of the licensed material or its container. 10 CFR 30.50(b)(4) (byproduct material), 10 CFR 40.60(b)(4) (source material), 10 CFR 70.50(b)(4) (special nuclear material).

Events involving **irradiators** that are reportable under 10 CFR 36.83 if not reported under other Department reporting requirements including source stuck in an unshielded position, any fire or explosion in a radiation room, damage to source racks, failure of the cable or drive mechanism used to move the source racks, inoperability of the access control system, detection of source by the product exit monitor, detection of radioactive contamination attributable to licensed radioactive material, etc. (See 10 CFR 36.83 (a)(1) through (10) for specific descriptions of reportable events).

Notify the Health Department via Vermont Emergency Management at 800-347-0488 and NRC's Operations Center at 301-816-5100 if the results from an FBI identification and criminal history records check indicate that an **individual is identified on the FBI's Terrorist Screening Database**.

NEXT CALENDAR DAY REPORTING

Notifications and reports of medical events involving **administration and use of byproduct materials**, except for patient intervention events, that result in certain doses as stated in 10 CFR 35.3045.

Events involving an **unauthorized dose** of 50 mSv (5 rem) to an embryo/fetus or a nursing child, or unintended permanent functional damage to an organ or a physiological system of a nursing child. 10 CFR 35.3047.

5 DAY REPORTING

Reporting of **leaking sealed source or guide tube**, leak test results greater than or equal to 185 becquerel (0.005 microcurie). 10 CFR 34.27(d).

Reports of **leak test results** that demonstrate the presence of 185 becquerel (0.005 microcurie) or more of removable contamination from a sealed source. 10 CFR 35.3067 (medical uses) and 10 CFR 39.35 (well logging) (See remaining paragraphs of 10 CFR 35.3067 and 39.35 for other conditions, including exemptions that apply).

30 DAY REPORTING

Reports of **lost, stolen, or missing licensed material** greater than 10 times Appendix C to 10 CFR Part 20 value and is still missing at this time (i.e., within 30 days it becomes known to the licensee). 10 CFR 20.2201(a)(1)(ii)

Radiation doses, releases, or concentrations of radioactive material that exceed the limits of 10 CFR 20. See 10 CFR 20.2203(a) for a list of reportable events.

Immediately suspend operation of a device if there is a **failure of or damage to the shielding** or an indication of a failure of or damage to the shielding, or the on-off mechanism or indicator, or upon detection of 185 becquerel (0.005 microcurie) or more of removable radioactive material and submit a written report within 30 days. 10 CFR 31.5(c)(5). (See 10 CFR 30.50(c)(5) for other conditions and restrictions that apply).

Radiography source disconnection, inability to retract source, or component failure (critical to safe operation of device.) 10 CFR 34.101(a).

After notification and classification that a **well logging** source is irretrievable, a report shall be made to the Health Department. 10 CFR 39.77(a), (c) and (d).