

Part 544 – Equipment

544.0 General

Much of the equipment utilized to collect data, test materials, and store samples are sensitive to vibration, weather, or other environmental conditions. All equipment must be maintained, transported, and stored properly. Taking extra care to handle equipment properly and in accordance with the manufacturer's recommendations helps ensure accurate data collection and reduces downtime due to inoperable equipment. Nuclear moisture and moisture-density gauges have special requirements for permitting, including training, due to the license requirements of USDA from the Nuclear Regulatory Commission.

544.1 Radiation Use Permits

Permits issued by the USDA Office of Homeland Security and Emergency Coordination's Radiation Safety Division are required to operate, store, and transport nuclear gauges. Refer to the permit conditions for moisture-density gauges posted by the Radiation Safety Division at <https://www.dm.usda.gov/ohsec/rsd/index.htm>. The permit conditions cover requirements for authorized users, field use, transportation, storage, personnel radiation monitoring, equipment testing, training, disposal, and record keeping.

544.2 Transporting Equipment

Sensitive equipment, such as survey equipment, requires special handling and transport. Follow all manufacturers' recommendations concerning the operation, maintenance, transport, and storage of the equipment. Equipment will be transported only in the appropriate containers and braced to minimize shifting. Special requirements must be followed in the handling and transporting of equipment that contain radioactive sources. The manufacturers' requirements and all terms and conditions of the permit for a nuclear moisture-density gauge must be followed.

544.3 Adjustment and Calibration

All equipment utilized to collect data for designs and to provide quality assurance must be checked frequently to ensure accurate information is being obtained. All equipment must be checked, adjusted, and calibrated in accordance with the manufacturers' recommendations, preferably by personnel trained in the care and maintenance of the equipment.

544.4 Maintenance

All equipment must be kept in good working order, following the maintenance instructions provided by the manufacturer. Do not attempt any maintenance that exposes the radioactive source of a nuclear moisture-density gauge.

544.5 Storage

All equipment must be stored in clean, dry conditions as recommended by the manufacturer. Nuclear moisture-density gauges have requirements concerning location, security, and signage. Storage and security requirements for nuclear moisture-density gauges are covered in the permit conditions for moisture-density gauges (see section 544.1 above).

544.6 State Procedures

A. Each State conservation engineer must develop specific procedures for ensuring proper care and maintenance of engineering equipment, including storage and carrying cases. The procedures should outline the minimum skills needed to operate the equipment, specific transport requirements, and specific guidelines to follow during usage.

B. Information about proper cleaning, maintenance, and repairs should be available to all personnel assigned or permitted for equipment. Scanned copies of manufacturers' information and manuals posted on a shared drive or other electronically accessible portal is acceptable, as is posting links in the same locations to manufacturers' Web sites. If hardcopies are the only format available, then copies of the manufacturers' information should be provided to all personnel with responsibilities for that equipment type and model. If the State has individuals with equipment operation and maintenance responsibilities, their names and telephone numbers should be provided to offices within the State with equipment.