MISSISSIPPI STATE DEPARTMENT OF HEALTH

Portable Moisture-Density Gauge
Operating & Safety Procedures

I. Management Responsibility

Each application shall be signed by the applicant, licensee, or a person duly authorized to act for and on the behalf of the applicant or licensee. If it is not clear whether the application was signed by someone duly authorized to act for and on the behalf of the applicant or licensee, Mississippi State Department of Health (MSDH) license reviewers may ask for additional assurances that the individual that signed the application is duly authorized to act for and on the behalf of the applicant or licensee. The signature on an application acknowledges the licensee's commitments and responsibilities for the following:

A. Radiation safety, security, and control of radioactive materials and compliance with regulations.

B. Knowledge about the contents of the license and application.

C. Compliance with current MSDH and U.S. Department of Transportation (DOT) regulations and the licensee's operating, emergency, and security procedures.

D. Commitment to provide adequate resources (including space, equipment, personnel, time, and, if needed, contractors) to the radiation protection program to ensure that the public and workers are protected from radiation hazards and compliance with regulations is maintained.

E. Selection and assignment of a qualified individual to serve as the radiation safety officer (RSO) for licensed activities and confirmation that the RSO has independent authority to stop unsafe operations and will be given sufficient time to fulfill radiation safety duties and responsibilities.

F. Commitment to ensure that radiation workers have adequate training.

G. Commitment to obtain MSDH's prior written consent before transferring control of the license

II. Radiation Safety Officer

The radiation safety officer shall:

A. Assure the safe use of the gauge(s) at all times

B. Assure compliance with the requirements of the Regulations for Control of Radiation in

Mississippi.

C. Assure that radioactive materials possessed conform with materials authorized by the license.

D. Assure that the gauge(s) are used only by persons identified as users under this license.

E. Assure that all users wear personnel monitoring devices (film badge, OSL, or TLD) while using the gauge(s).

F. Assure the gauge is properly secured against unauthorized removal at all times.

G. Serve as a point of contact and give assistance in case of emergency and to ensure that all proper authorities are notified promptly in case of an accident or incident.

H. Assure that the leak tests are performed at the required intervals as specified by the license condition.

I. Assure that survey meter calibrations are performed at twelve (12) month intervals.

J. Assure that all required records are kept and reviewed periodically for compliance with regulations. These records include source certificates, leak test records, gauge inventory records, survey meter calibrations, personnel exposure reports, and records of receipt and transfer of radioactive materials.

III. Handling Procedures

A. The source shall always be kept in the "safe" position when not in use.

B. Each portable nuclear gauge shall have a lock designed to prevent unauthorized or accidental removal of the sealed source from its shielded position.

C. The gauge source lock shall be in place when not in use.

D. The gauge shall be stored only in an approved storage area and the area locked.

E. No one shall operate, attempt to operate, or transport the gauge unless listed on the radioactive material license as an authorized user.

F. No person shall use or transport a gauge unless dosimetry is affixed to person (film badge, OSL, or TLD).

G. When performing tests at temporary job sites, the authorized user shall not leave the moisture/density gauge unattended. Upon completion of tests, the device shall be secured in the licensee's vehicle or a building by two independent (2) physical controls forming tangible barriers to prevent unauthorized use, loss, or theft.

H. The gauge shall be operated in a manner so as to prevent unnecessary exposure from the unshielded source to the operator or others.

I. The operator shall keep all unauthorized persons out of the operating area- fifteen (15) feet away, if possible.

J. A calibrated and operable survey meter must be available at each office for monitoring use.

IV. Transportation of the Gauge

A. The gauge containing the radioactive source(s) shall be secured within the transporting vehicle away from the passenger compartment at all times during transportation. The gauge must be secured by two (2) independent physical controls forming tangible barriers when in transport, storage, or when not under the direct surveillance of an authorized user.

B. The gauge shall only be transported within its marked shipping container.

C. At all times during transportation, the operator must have a properly completed shipping paper for each gauge. The shipping paper must be within arm's reach of the driver and visible to emergency personnel in the event of an accident.

D. The gauge shall always be transported and shipped in accordance with all applicable state regulations and all applicable U.S. DOT regulations.

V. Records and Reports

A. A six (6) month inventory record shall be maintained on all gauges received and possessed under the license whether in use or in storage.

B. All sealed sources shall be tested for leakage and/or contamination at the required intervals specified by the license condition.

C. All personnel monitoring records shall be kept on file and maintained indefinitely as required by Subchapter 4 (10 CFR 20.2106) of the Regulations for Control of Radiation in Mississippi.

D. Each user shall be advised annually of their occupational exposure to radiation as shown in records maintained by the licensee pursuant to Subchapter 4 (10 CFR 20.2106) of the Regulations for Control of Radiation in Mississippi.

E. When an individual terminates employment, a record of his total dose received shall be made available to him.

F. Survey meters shall be calibrated at intervals not to exceed twelve (12) months.

G. All records and reports shall be maintained for inspection by the Agency.

VI. Accidents and Incidents

A. If a gauge containing radioactive material is lost, stolen, or damaged, the operator shall immediately notify the company radiation safety officer. The following state agencies shall also be notified:

1. | MSDH Division of Radiological Health | MS Emergency Management Agency (MEMA) |
|---|---|
| (601) 987-6893 | 1 (800) 222-6362 |
| **(Weekdays 8 a.m. - 5 p.m.)** | **(After business hours, weekends, or holidays)** |

2. Local law enforcement authorities nearest the job site where the gauge was lost, stolen, or damaged.

3. The manufacturer of the gauge.

B. In the event of physical damage to the gauge, an exclusion area with a radius of fifteen (15) feet around the gauge shall be maintained until the extent of source damage (if any) is determined. If a vehicle is involved, it shall be stopped- and remain stopped- until the appropriate authorities can determine the extent of the contamination hazard.

C. If visual examination of the instrument and source indicates damage to the source, including fracture of the weld, a radiation survey must be performed by the RSO to determine the radiation dose rate of the damaged device.

VII. Repairs and Maintenance

Repairs and maintenance on gauge electronics may be performed by the radiation safety officer. All repairs and maintenance on the sealed source(s) shall be performed by the manufacturer.

VIII. Leak Test

The leak test shall be performed using ________________________________leak test kit (or other similarly approved leak test kit) following the manufacturer's instructions.

IX. Security and Storage

The storage area and storage container shall be physically secured to prevent tampering or removal by unauthorized personnel. Locks shall be maintained on the equipment to prevent accidental exposure of the sealed source when not under the direct supervision of authorized personnel. The storage area must be:

A. Fifteen (15) feet from any work station;

B. Accessible only to persons authorized to use the gauge(s); and

C. Locked when an authorized user is not physically present.

Submit a diagram and picture of the facility to include the storage and work areas, this should include proximity to work stations, and how the gauge(s) will be secured.

Printed Name____________________________________ **Job Title**___________________________________

Signature _______________________________________ **Date** ______________________________________

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