1.0 PURPOSE

This test procedure is used by the Electrical Safety Division (ESD) to determine if representative samples of a miner's cap lamp battery comply with the battery electrolyte non leak and spill requirements of 30 CFR Part 19.8(a).

2.0 SCOPE

This Standard Test Procedure (STP) applies to batteries of miner's electric cap lamps submitted for approval under 30 CFR Part 19.

3.0 REFERENCES

30 CFR 19.8(a): Spilling of electrolyte. The lamp shall be so designed and constructed that when properly filled, the battery will neither leak nor spill electrolyte under actual service conditions.

4.0 DEFINITIONS

None.

5.0 TEST EQUIPMENT

5.1. A stopwatch with a resolution of 1 second.

5.2. Litmus paper, as needed.

6.0 TEST SAMPLES

Five cap lamp battery assemblies in their proposed marketable form.

7.0 PROCEDURES

7.1. Fill and charge each battery according to the manufacturer's instructions.

WARNING: BATTERY MAY SPILL CORROSIVE ELECTROLYTE

7.2. Position the battery with the vent/filler holes facing down for a period of five minutes. Inspect for leakage (if any). Swab exterior surfaces with litmus paper, as necessary.

7.3. Position the battery on a side surface adjacent to the vent/filler holes for a period of five minutes. Inspect for leakage (if any). Swab exterior surfaces with litmus paper, as necessary.

7.4. Position the battery on the opposite side surface for a period of five minutes. Inspect for leakage (if any). Swab exterior surfaces with litmus paper, as necessary.

7.5. Position the battery in the inverted position for a period of five minutes. Inspect for leakage (if any). Swab exterior surfaces with litmus paper, as necessary.

7.6. Repeat steps 7.1 through 7.5 on the four remaining samples of the cap lamp battery.

8.0 TEST DATA

8.1. Sample number.

8.2. Battery position.

8.3. Leakage of electrolyte? Yes / No

8.4. Manufacturer and model number of the cap lamp.

9.0 PASS/FAIL CRITERIA

None of the cap lamp battery samples shall spill or leak any detectable electrolyte during the test.