

<b>DIVISION OF MINES GUIDELINES FOR APPLICATION OF REGULATORY STANDARDS MANUAL</b>	
<b>COAL MINE SAFETY ACT</b>	<b>CHAPTER 14.3</b>
<b>ARTICLE 11</b>	<b>ELECTRICITY</b>
<b>Issue Date: 4/10/00</b> <b>Revised Date:</b>	<b>Page 1 of 2</b>

**Section 45.1-161.195 B., C., D.**

**Inspection of Electric Equipment and Wiring:**  
**Checking and Testing Methane Monitors**

**Maintaining all monitors in permissible and proper operating condition.**

“Optional” methane monitors provided on electrical face equipment such as roof bolting machines, will require functional checks and weekly calibration checks pursuant to 45.1-161.195 B & C. The mine inspector must assure these checks are being performed and a record of these tests maintained. Failure to perform the functional tests and weekly calibration would result in a notice of violation. Further, an “optional” installation that is not permissible electrically would be a violation of 45.1-161.193 B. Other methane monitoring devices provided in outby areas must be inspected at least weekly, and any defects found must be corrected as required in Section 45.1-161.195 A.

Section 45.1-161.195 D applies only to those methane monitors required by Federal Code on face cutting and loading machinery.

Required methane monitors are maintained in proper operating condition when properly installed, maintained permissible, and calibrated to standard. The methane monitor must give a visual or audible warning to the operator when the concentration of methane reaches a maximum of 1.0 volume per centum. If operated remotely, the warning device must be on the remote unit or installed on the machine so as to be readily seen by the operator. On longwall mining installation, the methane monitor power shut off relay must be connected so that all electric power associated with the longwall installation is automatically de-energized when the concentration of methane reaches 2.0 volume per centum.

On cutting and loading machinery, the methane monitor sensor head must be located on the machine as near to the face as practical. This is normally within 12 feet of the face end of the machine. The monitor must automatically de-energize the machine when methane concentrations reach 2.0 volume per centum. If required on a piece of diesel equipment the monitor must also shut off the diesel engine when the concentration of methane reaches 2.0 volume per centum. The methane monitor may remain energized

when monitoring 2.0 or greater volume per centum of methane. Methane monitors are to be maintained calibrated as required by manufacturer's recommendation. The mine inspector must not consider a set standard of deviation to determine compliance. However, the inspector should require the operator to provide the manufacturer's recommendation. If a question of compliance arises, the burden should fall on the operator to furnish the necessary verification of the approved standard.

The following guidance is provided for the mine inspector in inspecting methane monitors:

1. Check the entire monitor system to determine that all components are secured to the machine.
2. Determine that the sensor head is located and mounted properly, and as close to the face as practical. Also, check the sensor head for proper condition and maintenance to ensure that the sensor head is not clogged or damaged.
3. Check packing glands for permissibility. Assure that lenses protecting its meter and indicating lamps are not cracked or broken.
4. Check for mechanical zero adjustment when no methane is present. Activate the test switch and assure the warning is given at 1.0 percent methane and that all motors and lights on machine de-energize when 2.0 percent methane is indicated.
5. Assure that the warning device can be seen or heard from the operator's position.
6. Check to assure that it is not possible to defeat the monitor by holding or blocking the machine's reset switch in the start position.

Any deficiency observed constitutes a violation on this section of the MSA. If necessary, the mine inspector should require application of known mixture of methane to the sensor head to determine proper operation of its monitor when deficiencies are suspected.

***Note: Readings of machine mounted methane monitors do not meet the requirements for methane checks in working places.***