

The Agency's Confined Space Entry Program includes a requirement for a Bump Test (subsection 6.3.2). This Bump Test is to be performed on all air monitoring equipment ("meter") used for confined space entry, at the beginning of each day the meter is used. This document will serve to provide guidance as to the requirements for a Bump Test.

A Bump Test is used to determine whether the meter is actually responding to the environmental conditions around it or is just relying on the internal check of the equipment's electronics, performed upon startup of the meters. It can also be used to demonstrate that the audible alarm is operational.

Bump tests are not required by regulations, but both OSHA and meter manufacturers address them in information bulletins, technical notes and operating instructions. The definition of Bump Tests is not consistent throughout the industry. For DEP, a Bump Test is defined as exposure of the meter to a condition such that at least one of the components being monitored for falls outside the acceptable range (as indicated in subsection 6.3.2) set point(s), activating the meter's alarm. It is intended to "check" the instrument's responsiveness without performing a full calibration test.

Some methods for the Bump Test include (a) breathing into the meter to activate the Oxygen sensor for low level (without making any contact between the mouth and the orifice of the meter or other potentially contaminated surface); (b) placing a magic marker or "Sharpie" briefly in front of the sensor to activate the LEL sensor for high level.

Equipment such as Bump Test Cylinders may also be used to perform this test. Placing the sensor near the exhaust of a vehicle is NOT recommended as it is likely to have deleterious effects on the sensor. The operator's manual for the meter may also provide information on recommended methods for performing Bump Tests.

After the Bump Test is performed, the meter must be taken into fresh air and "zeroed" out so that it is ready for use.

In addition to the Bump Test defined above and any normally scheduled calibration, operators using meters during confined space entries must take the meter out of service and have it calibrated after the following types of events:

1. The meter is dropped.
2. The meter is exposed to another type of impact.
3. The meter is submersed/partially submersed in water.
4. The meter registers a High Alarm condition (excluding Bump Test).
5. The meter indicates failure during startup.

Further, it is recommended that the meter be calibrated immediately prior to its use when workers are performing potentially high hazardous tasks, including: hot work in a confined space; construction work in a Class 1/Div 1 Area; and other tasks, as designated by the Responsible Individual or Bureau EHS. In the event of an emergency situation in which calibration equipment is not immediately available, a suitable Bump Test may be performed.

After calibration, a tag must be affixed to the meter indicating the date of the next required calibration.