

## Question 19.11

**Topic:** Dilution-type RM Backup Monitoring Systems

**Question:** Are there additional procedural variations or special considerations to take into account when using a dilution-type RM backup gas monitoring system?

**Answer:** Yes. In order to obtain consistent and accurate results with a dilution-type system, it is essential to take into account the following:

- (1) The critical orifice size and dilution ratio must be selected properly, to ensure that the water and acid dewpoints of the diluted sample will be below the sample line and instrument temperatures.
- (2) A high quality, accurate probe controller must be used, to carefully maintain the proper dilution air pressure and ratio during sampling.
- (3) Differences in molecular weight between calibration gas mixtures and stack gas must be taken into account, as these can affect the dilution ratio and introduce measurement bias.

**References:** § 75.20(d)(3); Method 7E, Section 8.3

**History:** First published in March 1995, Update #5; revised in October 1999 Revised Manual; revised in 2013 Manual