

Chemical Science and Technology Laboratory
Process Measurements Division
National Institute of Standards and Technology
Gaithersburg, MD 20899 U.S.A.
FAX COVER SHEET

DATE : July 24, 2001
TO : Dr. Ed Golla
Texas Research Institute

FAX NO : 512-263-2558
Number of pages to follow : 0 (excluding this cover sheet)
FROM : Dr. Peter Huang
Humidity Measurement and Standards

FAX NO : 1-301-548-0206
TEL NO : 1-301-975-2621

E-MAIL : phuang@nist.gov

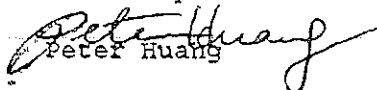
REMARKS/SPECIAL INSTRUCTION

To: Members of the NFPA technical committee considering NFPA 1989

Dr. Golla has explained to me the proposal to require either on site sampling or the return of samples at high pressure when testing for low level water vapor in compressed air. He also mentioned that comments were received requesting that the method be expanded to allow the use of low pressure samples in containers that are partially or completely composed of polymeric or elastomeric materials.

It has been our experience, me and Dr. William Dorko at the Gas Analysis Group, that low ppm levels of water vapor will be highly effected by the container they are held in. At room temperature, there is interaction between the inside walls of the container and water vapor, even in a stainless steel container. The situation is somewhat better at higher pressures (Hundreds to Thousands of psi) because of the lower surface to volume ratio. If polymeric or elastomeric materials are in contact with the water vapor the situation would be much worse and it is my opinion that such materials should not be used when transporting air samples containing low levels of water vapor. The use of low pressure would also not be recommended.

Sincerely,


Peter Huang