

# NIOSH / NPPTL Respirator Manufacturer's Meeting

May 12, 2009

## Hydration Issues

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# Hydration Issues – Current NIOSH Policy

For CBRN approved respirators:

- **The current unpublished NIOSH policy for hydration systems is that it is not part of the CBRN approval and cannot be used when the respirator is being employed in a CBRN application**
- **A user must return to a uncontaminated area before using the hydration system**
- **Container holding the water should not be allowed in the contaminated area**

# Hydration Issues – Current NIOSH Policy

For approved industrial respirators:

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# Hydration Issues – Current NIOSH Policy

- Questions have arisen on NIOSH policy on using hydration systems with back-mounted reservoirs
- NIOSH is reviewing STP-0014-Leakage of Drinking Tube Assemblies and the issue of testing entire hydration system has come up

# Hydration Issues

NIOSH is **investigating the need for** developing a new comprehensive policy for hydration systems which could allow the use of these systems in the contaminated area.

# Hydration Issues

**NIOSH is investigating the following usage scenarios:**

- **Hydration systems usage for SCBA - CBRN and non-CBRN types**
- **Hydration systems usage for CBRN APR / PAPR**
- **Hydration systems usage for 14G Industrial APR / PAPR**
- **Hydration systems usage for 23C Industrial APR /PAPR**

# Hydration Issues

- **NIOSH has not required complete drinking system to be part of any approved hydration system in the past**
- **Looking at allowing an approved respirator to have a drinking valve - hydration tube only if the complete hydration system is submitted as part of the approved assembly**

# Hydration Issues

- **NIOSH will issue a policy letter shortly on hydration and we need your input on these issues**
- **Current configurations with drinking tube valves will be allowed to continue as approved for a TBD timeframe**

# Hydration Issues

- Leakage of drinking tube valves and assemblies
- Leakage of bite tubes (drinking straws)
- Leakage of canteens, “camelbacks” and associated tubing, etc.
- Permeation of gases and vapors into hydration system
- The potential effect of these hydration systems on respirator fit

# Hydration Issues - Permeation

- Potential issue especially for CBRN-approved respirators
- US Army has test method to determine the permeability of non-metallic drink bags used on military masks to chemical agents HD and GB.
- NIOSH will determine and communicate the approximate cost factor of this test
- Should this test be required for APR for CBRN and / or SCBA for CBRN under new hydration policy?

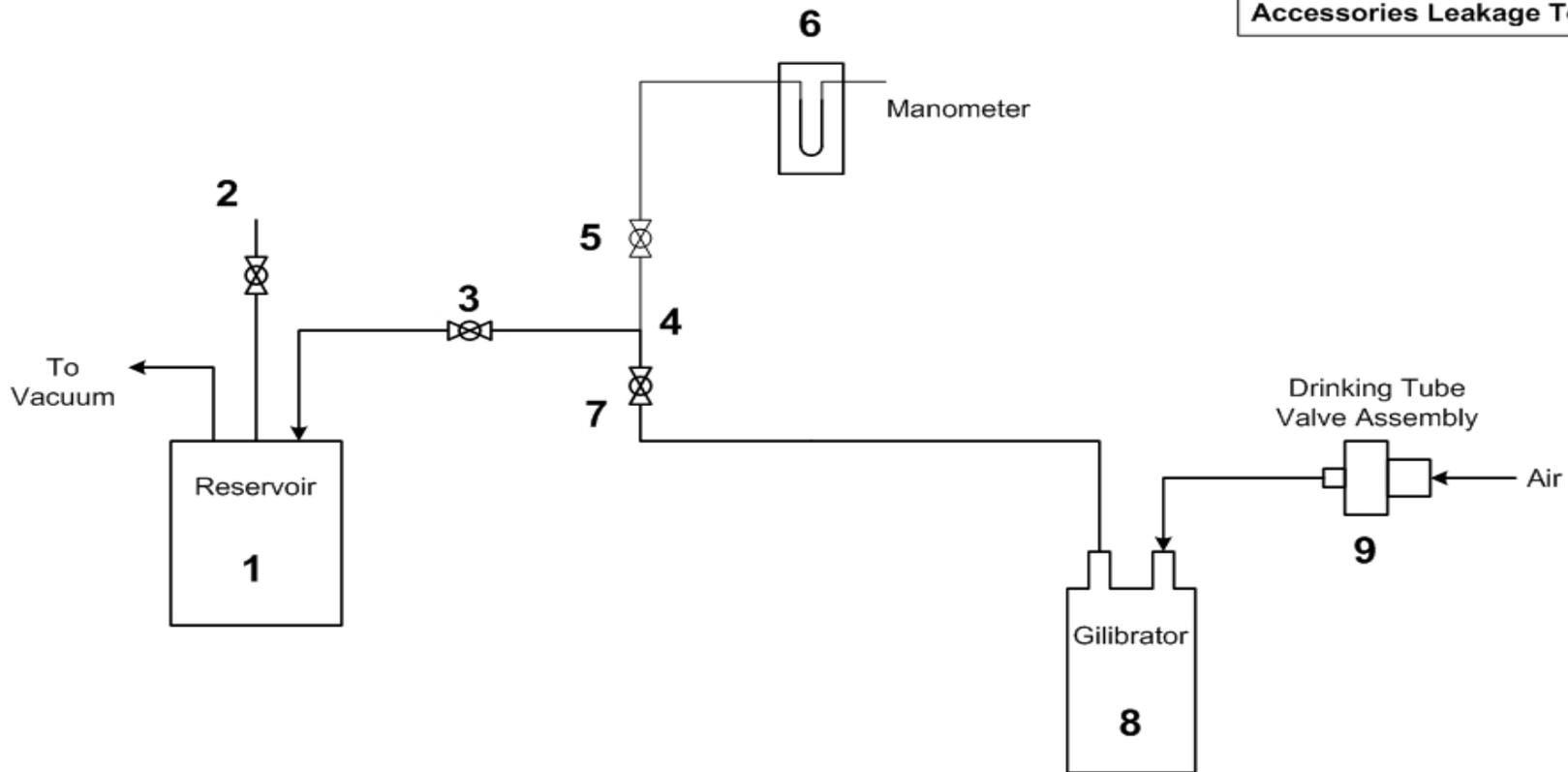
# Hydration Issues

- Are hydration systems needed for all types of respirators? If not, which types do require hydration?
- Should permeation testing of hydration systems be required for non-CBRN respirators?
- If permeation testing is not required for non-CBRN respirators, should hydration systems be limited to a maximum use concentration not to exceed the IDLH?

# Hydration Issues – Leakage of Drinking Tube Valves and Assemblies

- **Current STP is RCT-APR-STP-0014**
- **Revised STP will be issued shortly**
- **Suction (vacuum) level is 76 mm (3 inches) of water column height**
- **Simplified test set-up for plunger type valves with in-line bubble meter**
- **Separate test Including bottle (canteen), tubing and bite tube in which the valve is activated**

**Schematic Diagram for  
Drinking Tube and  
Accessories Leakage Test**



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# Hydration Issues

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# Hydration Issues

# Questions?