

**THE FOLLOWING IS FORWARDED BY THE NEW YORK STATE ASSOCIATION OF FIRE CHIEFS PUBLIC RELATIONS COMMITTEE FOR YOUR INFORMATION.**

**February 10, 2005**

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**Oxygen Cylinder Explodes During Equipment Check, Virginia Beach FD**

Please ensure that your oxygen cylinder is properly secured in the "ems" bag. When you check off the O2 cylinder, remove the cylinder from the bag to a well-vented area and check the pressure and then bleed off the residual in this well vented area. Not inside the rig! Make sure that you are using a proper none sparking device to turn the cylinder on (not a steel adjustable wrench), make sure your o-ring is in place and finally, make sure that penlights and other battery operated devices are properly stowed. The crew of ladder 16 narrowly escaped major injury and a large fire that could have burned the rig up. After checking off the ems bag, it was zipped back up and placed back in the compartment. The MRL bag was placed on top. The FF then removed the suction bag and started to check it off when fire emitted from the "ems" bag. The FF grabbed the bag and tossed in on the bay floor where other FF's tried to extinguish it. The relief valve was sounding and the impinging flame from the relief valve caused the cylinder to fail. Notice the breach in the cylinder wall at the shoulder of the cylinder. No one was injured in the fire or cylinder failure, but imagine the burn to the face level of a FF when the cylinder failed if it was still in the compartment.

A preliminary investigation suggests that the ignition sequence could have been a pen-light (found melted to the underside of the cylinder) and under the pen-light was a adjustable wrench. The O2 somehow leaked and saturated the bag. The "ems" bag was replaced back in the compartment and MRL placed on top. The weight of the MRL compressed the cylinder on the penlight against the wrench.

This information is still preliminary and was put together with the help of BC Mike Gurley, BC Vance Cooper and John Lyons. We will attempt to find the cause of the oxygen leak through a couple of channels formally. As more information comes forward, we will certainly let you know. It is amazing that these circumstances (Dominos) can come together and cause such a terrible event---but no one was hurt this time (except for noise exposure), and damage was confined to equipment. Please check your "ems" gear and make sure pen-lights are not floating in the bottom of the bag and that your wrench is plastic or non-sparking and that you have the regulator gasket/o-ring in place and you turn the O2 completely off. Pressurized gases including oxygen and air are dangerous and you need to handle them carefully.

Thank you for your attention, if you know of any similar circumstances involving O2, please email BC John Harvey or myself.

Sincerely,

Captain Stephen T. Miles  
Shift Safety Officer "A" Shift  
Virginia Beach Fire Department  
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