



# Lusail Real Estate Development Company

## Health, Safety, Security, Environment, Logistics & Quality Department

### Lusail Construction Safety Procedural Forms/Checklists – Compressed Breathing Air Cylinder Watch Instructions

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Document No LUS-HSE-FM4-446-023.01 Rev 1  
Uncontrolled Copy  Controlled Copy  Date 01-Apr-2015

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## Compressed Breathing Air Cylinder Watch Instructions

A “Cylinder Watch” is required whenever air-line respiratory equipment will be used. This does not include Self-Contained Breathing Apparatus (SCBA). This section contains instructions for operating bottled air equipment and safety instructions for “Cylinder Watch” personnel.

### OPERATING INSTRUCTIONS

1. Ensure you have a proper permit for the job. Read it and ensure all involved workers have read it, signed it, and understand the hazards and instructions for the job. Post the permit at the work site.
2. Position the cylinder air cart upwind of the work site. Keep the cart a safe distance away from the work site.
3. Check that each cylinder is labeled "Certified Breathing Air", "Breathing Air", or with similar markings that clearly identify the cylinder as a breathing air cylinder. Check any inspection tags on the cylinder to see that they are current.
4. Remove safety caps from cylinders and bleed a little air from each to ensure valves are free of dirt. Inspect the valves for any build-up of oil, grease, or other combustible material.
5. Connect pressure reducing regulator and gauges to one bottle.
6. Connect flexible metal hose from the other bottle to the pressure-reducing regulator.
7. Check the pressure on each cylinder with the regulator gauge by slowly opening one cylinder until maximum pressure is established. Close the first cylinder, and then open the second in the same way. If the second cylinder's pressure is lower, pressure on the gauge will bleed down to the lower pressure. When the system is in use, only one cylinder is to be used at a time -- use the cylinder with the lowest pressure first. The minimum pressure allowed before starting any job is 2000 psi.
8. Connecting the hoses:
  - a. If the cylinder cart is located near the work site, connect the "Hanson Y" manifold to the pressure-reducing regulator. Next, connect the mask hoses to the "Y" manifold.
  - b. If the cart is located at a distance which would require each person to use more than one length of hose, connect a length directly to the regulator, and then connect the "Y" manifold to that hose. Connect the mask hoses to the "Y" manifold. The maximum hose length allowed is 300 feet.
9. Connect facemask and escape bottle units to each air hose:
  - a. Always keep mask regulator switches on demand when not in use. This is to keep air from bleeding out of the system.
  - b. Check the pressure on 5-minute escape bottles (when required) - it should read approximately 1800 psi.
10. Check to ensure that masks and hoses are in good condition, and that all couplings are made up properly. Hanson coupling sleeves should be rotated so that the notch on the sleeve does

not align with the dot on the body. These must be aligned only when connecting or disconnecting the couplings.

11. Test the system by holding the masks to your face, adjusting the pressure-reducing regulator at the cylinders to maintain 80 to 100 psi.
12. Masks must be put on and adjusted to the face prior to entering the work area. The mask is adjusted by placing the chin into the mask and pulling the straps taut. Tighten the chinstraps first, then the side straps, and finally the top straps.
13. The regulators can be used on DEMAND or PRESSURE DEMAND. This selection is made at the switch on the face piece regulator.
  - a. On DEMAND, the regulator feeds air to the face piece only upon inhalation (demand) of the wearer to maintain atmospheric pressure in the mask. The airflow ceases on exhalation. The demand function is to be used only when putting the equipment on and taking the equipment off. The regulator must be switched to PRESSURE DEMAND before entering the work area.
  - b. On PRESSURE DEMAND, the regulator maintains a slight positive pressure in the face piece. After pressure is established, air is fed to the face piece during inhalation (demand) of the wearer to maintain the positive pressure. The airflow ceases upon exhalation. When the regulator is on pressure demand, it will be slightly harder to exhale than normal, since the wearer has to offset the positive pressure in the mask.
14. Check the cylinder pressure constantly. When the pressure in the cylinder in service drops to 500 psi, switch to the other cylinder. Follow these steps to switch cylinders:
  - a. Communicate to the workers that the cylinders will be switched.
  - b. Open the valve on the second cylinder.
  - c. Immediately, close the valve on the first cylinder.
15. If all available cylinders are empty and you need to put fresh cylinders on the cart, the use of the fresh air equipment will have to be stopped while you perform the change-out. Have workers move to a safe area (support zone) until new air cylinders are ready for service. Follow your site procedures for obtaining additional cylinders. Make sure that the new cylinders are properly labeled and inspected.
16. To replace compressed air cylinders, and when the job is complete, follow these steps:
  - a. Remove masks and shut off air at the cylinder valves.
  - b. Put one mask regulator on "Pressure Demand" to bleed pressure off the system.
  - c. Disconnect components and remove any excess dirt, oil, etc. before storing them in the cart. Do not put masks in plastic bags.
  - d. Replace caps on cylinders - caps must always be on the cylinders when they are not in use.
  - e. After coiling up air hoses on cart reels, couple the ends together to keep hose and couples free of dirt.
17. Notify your Foreman that the equipment is ready to be returned.

## SAFETY INSTRUCTIONS

1. Always stay near the compressed air cylinders. Monitor the air pressure constantly and switch cylinders when the pressure drops to 500 psi. See procedures outlined above.
2. Keep personnel not involved in the job clear of the area.
3. Keep airlines and hoses clear-- not tangled, hung up, twisted, or kinked.
4. Close the cylinder valve(s) whenever the workers are not wearing their masks to conserve air.
5. In an emergency, get help first. Follow the appropriate emergency procedures. Once another person has relieved you, you may help the workers, provided you have the proper personal protective equipment. Do not attempt to rescue workers unless equipped with appropriate gear, such as respiratory protection equipment.
6. Do not leave the jobsite until properly relieved or the job is complete. Return all equipment to its proper location.
7. Report any problems with the equipment to your supervisor.

**Note: These safety procedures apply to cylinder watch personnel only. If one is fulfilling additional safety jobs at the same time, such as fire watch or confined space attendant, then additional procedures and safeguards apply. Check the instructions for those duties prior to commencing work.**