FREQUENTLY ASKED QUESTIONS AND RESPONSES

NEW CARBON DIOXIDE BEVERAGE DISPENSING SYSTEM REGULATIONS

Q. I own a restaurant that has soft drink dispensers supplied from a large carbon dioxide installation in the basement. I also own a bar that uses small carbon dioxide containers behind the counter for soft drinks and beer. I understand that the Fire Department has adopted a new rule regulating use of carbon dioxide for beverage dispensing systems but I am not sure how it applies to my existing carbon dioxide installations. Could you explain what I need to do to make sure my businesses are in compliance with the new requirements?

A. New York City Fire Code FC Chapter 30 regulates the storage, handling and use of compressed gases. The Fire Department recently updated one of its rules, 3 RCNY Section 3004-01, now entitled “Use of Carbon Dioxide in Beverage Dispensing Systems,” to ensure that such systems are being installed and maintained in accordance with modern safety standards.

Section 3004-01 applies to low pressure carbon dioxide installations – the type of system that is filled by a commercial beverage carbonation supplier from a cargo truck through a fill connection in an outside wall.

If you have a modern, professionally-installed and serviced carbon dioxide beverage dispensing system, chances are you will not need to make any major changes. Section 3004-01 was drafted with the understanding that it is consistent with industry standards and practices with which your installer/supplier should already be complying.

All business owners who have beverage dispensing systems should contact their supplier and ask the supplier to confirm that the system is in compliance with Section 3004-01. The rule is posted on the Fire Department’s website at: http://www1.nyc.gov/assets/fdny/downloads/pdf/about/fdny-rules.pdf.

Please note that Section 3004-01 does not apply to high-pressure carbon dioxide containers and systems. These are small containers of carbon dioxide connected by hand to soft drink or beer dispensers (typically containing 20 to 50 pounds of carbon dioxide, as compared to the 250 to 750 pound containers filled by cargo truck). A future Fire Department rule will address the use of this type of carbon dioxide containers and systems. In the interim, ask your supplier about installing a carbon dioxide alarm (see below) if you don’t have one.

Life Safety Concerns

The most important thing for you to know is that carbon dioxide – a clear, odorless gas – is a potential asphyxiant (suffocation hazard). If you have a carbon dioxide beverage dispensing system, the installation should include a carbon dioxide detection and alarm system (“carbon dioxide alarm”). If there is a leak, the carbon dioxide alarm sounds both in the room in which the storage tanks are installed and outside the room to alert occupants of the hazard. Most carbon dioxide detection systems have different types of alerts, so it is important to know (and to train your staff to know) how the carbon dioxide
alarm works. When the carbon dioxide alarm sounds an alert indicating that the carbon
dioxide in the room or areas exceeds the short-term exposure limit (STEL) or the
permissible exposure limit (PEL), all persons should evacuate the area and immediately
call New York City 911.

Section 3004-01 requires the posting of a warning sign at the entrance to the room or area
containing the storage containers that reads:

WARNING – CARBON DIOXIDE GAS INSTALLATION –
ASPHYXIATION DANGER

A high carbon dioxide (CO2) gas concentration
in this area can cause suffocation.

DO NOT ENTER ROOM/EVACUATE THE AREA:
• if the CO2 alarm indicates an immediate threat to
life or safety. or
• if there is reason to believe there is a CO2 leak
and there is no functioning CO2 alarm.

CALL NEW YORK CITY 911 IMMEDIATELY.

The supplier is required to provide training to the business owner (and/or designated staff
at the premises) at time of installation and annually thereafter in the design and operation
of the carbon dioxide beverage dispensing system, including the carbon dioxide alarm.
The training should address the hazards associated with the system, and emphasize the
importance of immediately reporting to the installer/supplier any damage to, or
malfunction of, the system; ensuring that system is promptly inspected and repaired; and
calling 911 if the carbon dioxide alarm indicates an emergency.

Carbon Dioxide vs. Carbon Monoxide

The carbon dioxide alarm that monitors your beverage dispensing system is different
from the carbon monoxide alarm that you have in your place of business. A carbon
monoxide alarm detects excessive amounts of carbon monoxide – a clear, odorless gas
generated by fuel-burning equipment – that is released when your cooking, heating or hot
water system is malfunctioning.

Summary of New Section 3004-01

Be sure to read the new rule for the details. Section 3004-01 is available on the Fire
Department’s website. Here are some of the key requirements:

• Section 3004-01 applies to carbon dioxide beverage dispensing systems storing
more than 100 pounds of low-pressure, liquefied carbon dioxide (that is all but the
smallest low-pressure carbon dioxide containers in commercial use).
• A Fire Department permit is required if the system stores more than 4,500 standard cubic feet, or about 515 pounds, of carbon dioxide. (This is not a new requirement. It is from New York City Fire Code Section FC105.6.)

• A Fire Department certificate of fitness for carbon dioxide systems is required for installation, repair and filling of carbon dioxide beverage dispensing systems. If you are having a new system installed (or an existing system repaired), ask your supplier for proof that its installer holds the required Fire Department certificate.

• Your installer/supplier must notify the Fire Department of any new carbon dioxide beverage dispensing system with more than 400 pounds of carbon dioxide, and any alterations or repairs to such a system. The installer/supplier must also report to the Fire Department any release of carbon dioxide or activation of the carbon dioxide alarm. (The reporting form is posted on the Fire Department’s website.) Ask your installer/supplier for a copy of these reports and keep them on the premises.

• “Quick checks” of the system must be conducted at the time carbon dioxide is delivered, if feasible, but at least once every three months, and a full inspection must be conducted on an annual basis. It is the Fire Department’s understanding that these inspections are typically conducted by the supplier’s delivery personnel, but the business owner could conduct these inspections with their own staff if they have the necessary training from the supplier and obtain the required Fire Department certificate of fitness. Ask your installer/supplier for a copy of each inspection checklist and keep them on the premises.

• Existing warning signs should be replaced with the approved sign (see above), unless the installer/supplier obtains Fire Department review and approval of alternative sign(s) containing the same information as the required sign.

Q. The low-pressure, 500-pound carbon dioxide beverage dispensing system in my business is old, but so far as I am aware it is operating properly. Do I have to replace my existing system and install a carbon dioxide alarm?

A. If your system was lawfully installed, is safe to operate and parts and supplies are available to maintain it, you do not have to replace it. Ask your carbon dioxide installer/supplier if it is functioning properly and whether it is time to update it.

However, if your carbon dioxide beverage dispensing system does not have a carbon dioxide alarm, ask your installer/supplier to provide one as soon as possible. You should not think twice about installing a carbon dioxide alarm in any premises in which carbon dioxide is being stored or used. A carbon dioxide alarm does not require electrical wiring; it is plugged into a standard electrical outlet. The cost of installation is low (in the hundreds of dollars) and you are protecting your business and the safety of your customers and employees from an invisible and odorless gas that can asphyxiate you.

You and your installer/supplier must also operate and maintain your existing system in compliance with Section 3004-01, including the signage, training, inspection, reporting and recordkeeping requirements of that section.