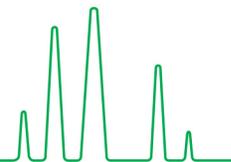


SPECIALTY GAS REPORT



A supplement to CryoGas International, dedicated to the specialty and medical gases business

Protecting Our Food Supply

by **Bob Yeoman**

One of the provisions in the Food Safety Modernization Act (FSMA) set to become law in August of this year involves Food Defense. FDA is concerned about the security of our food supply chain, and with the terrorist threats to America seemingly growing every day, those concerns are justified. This article will examine the new provisions FSMA will require for Food Defense, and how that may likely affect food and beverage gas firms.

Background

At the start of the new millennium the sanctity of our food supply was taken for granted by almost everyone, including government regulators. The U.S. regulatory focus on food was totally on ensuring the food was safe to consume and was not inadvertently contaminated during manufacturing or distribution process. Few people even considered the potential for intentional contamination to be introduced. However, following the 9/11 event many here in America and around the rest of the globe began to realize that our food supply chain was potentially vulnerable to an intentional attack. In 2002 FDA began requiring food firms to register with them. Prior to this government regulators had no clear picture of how many firms were involved in the US food supply chain, what products they produced, and where they were located.

Food can be intentionally contaminated at a number of junctures along the food supply chain, and the new regulations recognize and accommodate these different steps. Raw agricultural products can be contaminated in the field prior to harvest. Processed foods can be contaminated during the manufacturing and packaging processes. All foods are potentially susceptible to contamination in storage or transit, and prepared foods can be contaminated where they are prepared and served.

Food and beverage gases cross many of these supply chain lines. A variety of freezing and chilling processes using gases are in wide use today across a wide variety of food products, from bakeries, to meat and poultry plants, as well as seafood. Gases are an integral ingredient to carbonated drinks, as well as many still beverages. Gases are also used to package and store a wide variety of products, from snack foods to fruits held in long term storage like apples.

Food Defense

The new FDA standard for food defense involves more than just intentional contamination. The recently updated Publically Available Standard (PAS) #96, entitled "Guide to Protecting and Defending Food and Drink From Intentional Attack", which FDA helped develop, provides an outline

of what the new FDA standard on intentional contamination is expected to include.

PAS 96 identifies additional concerns, which include cyber security and food fraud. While food fraud is likely not a concern for the food and beverage gas industry, cyber security is something we will likely have to deal with. Here the standard focuses more on cyber-crimes involving food than issues related to network security.

PAS 96 identifies types of crimes food firms will need to consider. The first of these involves economically motivated adulteration, which seeks to gain a financial advantage by deceiving consumers. This can be from incorporating cheaper but harmful substances into a food product or by falsely claiming a competitor in engaged in such activities. Next comes malicious contamination either from an outside party or from a current or former employee. Here the target may not be the firm processing or distributing the food product, but a customer of theirs who has a much higher market recognition factor. Another area is extortion, where contamination is conducted or threatened in order to achieve a financial gain. Counterfeiting is yet another area of concern. In the gases industry selling an industrial grade of product as a beverage grade, is one possible example of potential counterfeiting in our industry.

PAS 96 also identifies potential threat groups. While the traditional terrorist threat from both foreign and domestic sources exists, the gases industry is generally well prepared to deal with those groups due to the number of regulations that exist to govern the processing and storage of hazardous materials also serves to guard against outside threats to our products. A more concerning threat to food and beverage gas products are disgruntled current and former employees. This group has inside knowledge of our products and processes. They may also have relatively un-fettered access to otherwise locked and secured facilities.

Threat Assessment Critical Control Points

The PAS 96 standard creates a control mechanism known as Threat Assessment Critical Control Points (TACCP). To determine the TACCP a firm conducts a risk assessment looking at all potential threat modes and threat groups. This assessment process will identify those controls which will prevent, manage, or monitor the threats to a particular business or supply chain. These are the TACCP's. Typical

TACCP's include systems to monitor employees, from background checks prior to employment, having employees present credentials when they report to work, having all visitors sign in and show credentials, and limiting access of production and storage areas to authorized personnel. Workplace TACCPs include alarm systems and video surveillance systems.

Another type of TACCP is tamper evident and tamper prevention systems for containers of finished products. Here the food and beverage gas industry is likely to encounter new requirements. Today very few cylinders are shipped with even an outlet cover on the valve outlet. Today some smaller beverage cylinders are shipped with a reusable outlet cover. Few of the outlet cover systems in place today are likely to meet tomorrow's requirements. We foresee a change in industry practice coming where in the near future all food and beverage gas cylinders will be shipped with an outlet cover that requires some effort to remove and cannot be put back into place again once opened. FDA may even require these outlet covers to have unique numbers or identifiers on them as a further guard against intentional contamination of the cylinder.

Many in our industry today are likely to view these measures as overkill or un-necessary for gases. What all of us in the gas industry need to come to grips with is that this is where the food industry and food and beverage regulation is headed. We can choose to swim against the tide or we can elect to find new and cost effective methods to meet these challenges.

B&R has begun integrating TACCP reviews into our risk assessment processes and have helped numerous firms identify their threats and devise creative solutions to meet this coming challenge today. If you have questions about PAS 96, or would like more information on risk assessments or food safety in general please give us a call or drop us a line.

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