

INVESTIGATING THE IMPACT OF THE YEAR 2000 PROBLEM

- food manufacturers will label products with incorrectly calculated “sell by” dates, causing potential illness,
- pharmacy systems will cancel prescription benefits due to date problems and
- security systems will allow suspicious activity to continue due to date tracking errors.

Any interruption within the farm-to-fork chain can result in a direct loss to those who supply food, likely translating into food shortages and price increases. As is the case with many businesses, food suppliers are increasingly dependent on computerized processing and information exchange. For example, farmers and ranchers use electronic equipment irrigation systems, animal feed systems and transport systems. Processors rely on automated systems that help prepare and package consumer-ready products. Distributors, wholesalers and retailers depend on computer-driven equipment to transport, deliver, store, display and sell food products, and inventory and accounting systems. They rely further on equipment with time-dependent embedded computer chips, such as harvesting equipment; grain elevators; plant, warehouse and truck refrigeration systems; store and plant security systems; and heating, ventilation and air conditioning (HVAC) systems.

Committee efforts to coordinate interviews as well as to secure wit-

nesses for hearings met significant resistance. This resistance and non-responsiveness came from both industry trade organizations/associations as well as major corporations within the retail and manufacturing sides of the food industry. Both food retailers and manufacturers cited numerous reasons for their resistance.

As of the 105th Congress, the general preparedness of the food industry is not clear. The reluctance to provide public witness is certainly disturbing. Put in the context of the Gartner Group’s assessment of the food processing and farming/agriculture status, it is possibly alarming. Gartner predicts there is a better than 66% chance of at least one mission-critical failure within each of these industries (see figure 3). In testimony, Gartner’s Marcoccio stated, “An industry highly overlooked is agriculture (farming, food processing, transportation/ distribution, and import and export of foods and food bi-products). Several agriculture sub-industries are lagging far behind.”

CHEMICAL MANUFACTURING

Overview:

Virtually every consumer product is critically dependent on the chemical manufacturing industry. Cars and trucks, for instance, depend on thousands of chemicals – from polyurethane seat cushions and neoprene

hoses and belts to air bags and nylon seat belts.

Chemical manufacturing is also vital to the overall U.S. economy. In 1997, \$69.5 billion in chemicals were exported, which was 10 cents of every export dollar. This topped agriculture's \$55.9 billion of exports and aviation's \$38.3 billion. In meeting the demands of the of U.S. industry, in 1997, the chemical industry shipped \$392 billion of goods. This was 2.1% of the total U.S. economic output, more than any other manufacturing sector. Finally, over 1 million Americans were employed by the industry in 1997.

Y2K Vulnerabilities in Chemical Manufacturing

Chemical manufacturers are highly dependent on computers to manage businesses operations and to control manufacturing processes. Thus, they are susceptible to the Y2K problem as well. To quote from the Chemical Process Industries' (CPI) leading publication, Chemical Engineering, "Left unchecked, the Year 2000 problem – called Y2K, for short -- could be catastrophic for the chemical process industries (CPI). The date glitch could cause innumerable shutdowns and horrific accidents. Indeed, a manufacturer's process-control system could be stymied by "00" and shut down altogether on New Year's Eve."

An example has already occurred. "At midnight on New Year's Eve 1996 at Tiwai Point in South Island, New Zealand, all [660] of the smelting potline process control computers stopped working instantly, simultaneously, and without warning. The Bell Bay plant in Tasmania shut down two hours later - midnight local time."

***"THOSE MOST AT RISK
ARE SMALL AND MEDIUM
SIZED COMPANIES."
SENATOR GORDON SMITH***

Major Initiatives

While the large companies have substantial ongoing Y2K programs, at this time, the only major initiative across the industry that the Committee is aware of is a community workshop convened at the Committee's request on December 18, 1998. The committee has requested that the United States Chemical Safety and Hazard Investigation Board (CSB) investigate

- the extent of the Y2K problem in the automation (both supervisory control systems and embedded systems) that monitors and controls the manufacture of toxic and hazardous chemicals;
- the awareness of large, medium and small companies within the industry of the Y2K threat;
- CPI progress to date in addressing the Y2K problem;
- the impact of this problem on the "Risk Management Plans" required in June 1999 under the

INVESTIGATING THE IMPACT OF THE YEAR 2000 PROBLEM

Clean Air Act of 1990;

- the role the Federal agencies are playing in preventing disasters due this problem; and
- actions to prevent major disasters due to toxic or hazardous chemical releases as the Y2K approaches.

Assessments

There are very few general Y2K assessments of the CPIs. The Gartner Group provides one that surfaced in the Committee's investigations. Gartner develops its predictions on Y2K from a quarterly survey of over 15,000 companies in 87 countries. It organizes its survey output into 26 industries, one of which is CPI. At the October 7, 1998 Hearing on General Business and the Year 2000 Problem, Lou Marcoccio of the Gartner Group placed CPI in Gartner's category III rating. In this category, Gartner predicts that about 50% of the companies will experience at least one Y2K mission-critical failure. Gartner's definition of a mission-critical failure is any business dependency, which, if it were to fail, would cause any of the following:

- a shutdown of business, production, or product delivery operations,
- health hazard to individuals,
- considerable revenue loss,

- a significant litigation expense or loss or
- Significant loss of customers or revenue.

The Chemical Manufacturer's Association (CMA) met with Committee staff following the October 7th hearing and related that they were prompted by Gartner's testimony to do their own, independent industry survey. Their survey has begun, but no results are available at this time.

Concerns

The Committee currently has two concerns about CPI. First is the potentially great public health risk posed by the accidental release of toxic or hazardous chemicals. The Committee is optimistic that from what it has learned, the very large CPI companies are well along in their Y2K preparations. However, as in other areas the Committee has looked into, small to medium firms are most likely unprepared. What's most bothersome here is that a small firm may be processing, transporting or storing enough dangerous chemicals to be a health or safety threat to a sizable population.

The second concern has to do with the publicly disclosed risk management plans required of firms in this industry in April 1999. These plans were required by the amended Clean Air Act of 1990 to provide citizens with accurate information about potential chemical hazards in their communities. These plans were ini-

INVESTIGATING THE IMPACT OF THE YEAR 2000 PROBLEM

tiated before the country was paying attention to the Y2K problem. The Committee feels that if Y2K is not considered as a potential cause of accidental release of chemicals that may be toxic or hazardous, these plans will not be credible or accepted by the public reviewing them.

In summary, the Committee is concerned that at this moment the impact of Y2K on chemical process safety may be a neglected issue.

The Committee is hopeful that the President's Council on Year 2000 Conversion's assessments, the CSB-convened workshop in December 1998, and the Chemical Manufacturers Association survey will provide more assurance in the first quarter of 1999. The Committee will be watching these developments carefully and will be taking further action if more information is not forthcoming.