to 24 hours per day, all orders could be filled. As the Christmas season approached, however, the usual seasonal demand for chocolate butter paste posed a problem for Cocomaker: It needed to meet demands not encountered in previous years. The company decided that if the processing temperature was increased by 20 degrees, the paste would be sufficiently less viscous, and production demands could be met with the current pump limitations. Unfortunately, the increased capacity began to generate problems as Christmas approached. The pumps began failing on a regular basis; a strike at the supplier of the shipping containers caused Cocomaker to buy containers from a new supplier, which claimed to carry only sturdier containers at a 10% increase in price; the safety officer had an emergency appendectomy; and—most troubling—Hoyne called about an unacceptable bacteria count in shipments for the last five days. As a result of the bacteria, people who bought Hoyne's products have been getting ill.

An immediate check of the bacteria levels shows that they are at the same acceptable levels they have always been when leaving Cocomaker's plant. You call Hoyne and tell them that the plant levels show that the paste is within bacteria specifications. Two days later, you receive a call from Hoyne, saying that the bakery had hired an independent firm, which reported that the bacteria levels for the chocolate butter paste are well above an acceptable level. You call the Damon, Bell, Clissold, and Oakley bakeries and ask them to check their bacteria counts; they report back that everything is within the specifications most often reported. A spot check of other customers shows no problems. Now you receive a call from Hoyne, saying the bakery is initiating legal and governmental actions to close your plant down.

Carry out a K.T. problem analysis to learn the cause of the problem.

4.20. Sparkling mineral water is the primary product of Bubbles, Inc. This firm, which is based in France, serves three major markets—Europe, North America, and Australia. It collects water from a natural spring; the water is then filtered through a parallel array of three filter units, each containing two charcoal filters. The filtration process removes trace amounts of naturally occurring contaminants. The filtered water is stored in separate tank farms, one for each market, until it is transported by tanker truck to one of the three bottling plants that serve the company's markets. When the water arrives at the bottling plant, it is temporarily placed in 3500 m^3 storage tanks until it can be carbonated to provide the effervescence that is the trademark of the producer. Some of the water is also flavored with lemon, cherry, and raspberry additives.

Next, the sparkling water is packaged in a variety of bottle sizes and materials, ranging from 10-ounce glass bottles to 1-liter plastic bottles. The European market receives its shipments directly by truck, usually within three days. Products bound for North America or Australia are shipped first by truck to the waterfront and then by freighters to their overseas destinations.

Business has been good for the last several months, with the North American and European markets demanding as much sparkling water as can be produced. This