

Mass Food Poisoning Caused by Snow Brand Dairy Products

【 June 27 ~ beginning of July in 2000, throughout Kansai region 】

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Food poisoning caused by dairy products such as “low-fat milk” produced at the Osaka plant of Snow Brand Milk Products Co. (Snow Brand hereinafter) left 14,780 people ill after it was first reported on June 27, 2000. Original cause was attributed to a toxin generated by increased bacteria during a power outage that stopped the production line at the Taiki plant in Hokkaido where the raw material was produced. This toxic material was sent to the next level of production line without being discarded and created toxic skim milk powder. Dairy products that contained the toxic material were produced and shipped from the Osaka plant and caused an outbreak of food poisoning. After the incident, the delay in making intra-company and public announcements and also in recalling the product accelerated the spread of the disaster throughout the Kansai region, and this case became an historic outbreak of food poisoning in Japan.

1 . Event

People who consumed Snow Brand dairy products fell ill with food poisoning one after another and the number of affected people reached a total of 14,780 after this incident was first reported on June 27, 2000.

On June 28, The Osaka City Government directed Snow Brand to cease making the products, recall them and also make an announcement of the facts in the case. The incident was publicized on June 29 and an order to recall the affected products was made on June 30. The delay in making intra-company and public announcements and also in recalling the products accelerated the spread of the disaster.

On July 2, the Osaka Prefectural Institute of Public Health (Osaka Public Health hereafter) detected staphylococcal enterotoxin type A from “low-fat milk”. The Osaka City identified it as food poisoning caused by a toxic agent and prohibited operation of the Osaka plant. Snow Brand suspended production of dairy products at 21 plants across the county on July 11.

On July 25, the Ministry of Health, Labor and Welfare (Health Ministry hereafter) authorized the reopening of 10 plants and they went back in operation from July 27. A declaration of safety was issued for 20 plants on August 2, but consumers continued to boycott Snow Brand products throughout the nation.

Under further investigation, Enterotoxin Type A was found in the skim milk powder (produced on April 10), the material is used for low-fat milk products, which were produced at the Taiki plant in Hokkaido.

Hokkaido Prefecture began investigating the site from August 19 and announced their findings of the effects of the power outage which occurred on August 23, which caused the production of the toxic skim milk powder, violated use of skim milk powder which contained viable cell count that did not meet its standards, and detection of enterotoxin type A in the stored sample of skim milk powder produced on April 1 and April 10. Hokkaido Prefecture also charged them to be in violation of Article 4 of Food Hygiene Law and ordered a ban on the business according to Article 23 as well as to recall the skim milk powder produced on April 1 and April 10.

This incident caused Snow Brand to lose consumer confidence and the sales of the largest dairy product manufacture has since plummeted. The total deficit for the period of this fiscal year reached to 52.9 billions yen and the company was pushed to close two sites including the Osaka plant.

2 . Course

- (1) On March 31, there a was power outage from 11 am for three hours at the Taiki plant of Snow Brand in Hokkaido. Due to this power outage, the skim milk was kept heated at 68 to 86°F for four hours during the cream separation process, which usually took only a few minutes. Also the return tank used to store excess skim milk during the condensation process was left without cooling for nine hours. Consequently toxic enterotoxin type A propagated as staphylococcus bacteria grew.
- (2) On April 1, it was considered to be safe enough to produce skim milk powder by sterilizing the material that was retained inside the pipe at the plant (the material needed to be discarded), and a total of 830 bags of skin milk powder were manufactured. And 450 bags out of 830 tested negative for bacteria including staphylococcus and escherichia coli and shipped (112 bags out of 450 were used for dairy products while the rest were moved to storage). As the rest of the 380 bags exceeded the amount of general bacteria by more than 1% of it's own standard value (9,900 bacteria per gram), they were reused as material of skim milk powder (due to the lack of safety control management). At the Taiki plant, 750 bags of skim milk powder were manufactured out of the toxic material and shipped on April 10 and 278 bags out of 750 were used at the Osaka plant.
- (3) On June 20, the Osaka plant received the skim milk powder manufactured in the Taiki plant.
- (4) On June 23, the Osaka plant manufactured the dairy products that had caused food poisoning (~6/28).

- (5) On June 27, the Osaka City and Snow Brand received the first report that the Snow Brand low-fat milk caused food poisoning. The number of the illnesses continued to grow through the following day, June 28.
- (6) The Osaka City government investigated affected people and inspected the Osaka plant, On June 28, they directed Snow Brand to refrain from producing, and to recall the products, and make an announcement of the facts of the incident. The incident was publicized on June 29 and the order of product recall was made on June 30. The cause was expanded to nearby cities and prefectures during the time.
- (7) The Health Ministry sent office members to the Osaka City government and held a joint session with related cities and prefectures on June 30. On July 1, the Health Ministry and the Osaka City jointly investigated the Osaka plant under the administration of Hazard Analysis and Critical Control Point (HACCP).
- (8) On July 2, the Osaka Public Health Dept. detected Staphylococcal enterotoxin type A in a “low-fat milk” product. The Osaka City government identified it as food poisoning caused by a toxic agent and prohibited operation of the Osaka plant. Also Osaka Prefectural Police began an investigation under Suspicion of Negligence Causing Injury. The number of affected people reached to more than 10,000 and on July 5th, Takuro Ishikawa, the President of Snow Brand resigned effective the following day.
- (9) On July 10, the Osaka City government issued an interim finding and announced its discoveries of the investigation of the incident. The reported number of affected people reached to 14,780.
- (10) On July 11, Snow Brand suspended production of dairy products at 21 plants across the county.
- (11) On July 25, the Health Ministry authorized the reopening of 10 plants including those in Kyoto and Kobe. Those plants went back in operation from July 27 and a declaration of safety was issued to 20 plants on August 2.
- (12) On August 18, regarding the mass food poisoning caused by the product of Osaka plant, the Osaka City announced that toxin (enterotoxin type A) of Staphylococcus bacteria was detected from the skim milk powder produced (on April 10) at Taiki plant (Taiki, Hokkaido Prefecture). Sales of Snow Brand dairy products began to be suspended.
- (13) Received the request of investigation from the Osaka City and the Health Ministry, Hokkaido Prefecture began to investigate the site from August 19 and announced their findings of the power outage occurred on August 23 that affected the production of the toxic skim milk powder, violated use of skim milk powder contained viable cell count that did not meet its standard, and detection of enterotoxin type A in the stored sample of skim milk powder produced on April 1 and April 10. The toxic skim milk powder was used as material of dairy products manufactured at the Osaka plant.

Hokkaido Prefecture also charged violation of Article 4 of Food Hygiene Law and ordered a ban on producing dairy products according to Article 23 as well as to recall the skim milk powder produced on April 1 and April 10.

- (14) On September 20, in a joint session, the Health Ministry and the Osaka City issued the interim and announced that the outbreak of food poisoning attributed to the skim milk powder produced at Taiki plant.
- (15) On September 23, the Health Ministry accepted the improvement plan including power outage control measures, which were submitted for the Taiki plant, and lifted the ban order. Operation restarted from October 14.
- (16) On September 26, Snow Brand announced the financial outlook for the next fiscal year. The ordinary loss fell into the deficit of 53.8 billion yen and Snow Brand announced to close the Osaka plant.
- (17) On December 20, “the joint session of the Health Ministry and Osaka City” held a meeting and issued the final report of the food poisoning caused by Snow Brand dairy products, and concluded that the cause was attributed to the skim milk produced at Taiki plant (Taiki, Hokkaido Prefecture). Toxin of staphylococcus was generated either from cream separation process or condensed process during power outage.
- (18) On December 22, Snow Brand publicized the final report that the cause of the food poisoning was attributed to the skin milk produced at the Taiki plant (Taiki, Hokkaido Prefecture). Due to a power outage in March, the temperature in the Taiki plant was not kept properly which caused the creation of the toxin. Although the public health institute of the Osaka City government requested a product recall and an intra-company announcement, Snow Brand disagreed with the request and the executive director directed them to reconfirm the request on early 29th, which caused a delay in making an announcement, the report continued. In the meanwhile, on the 22nd, Snow Brand reported the Osaka plant closure due to revelation of lack of sanitation, and the plant was actually closed down on January 31, 2001.

HACCP: Hazard Analysis and Critical Control Point (HACCP) administered by the Health Ministry to the institutions that possess high a sanitary system is a means to analyze possible risks to secure products.

3 . Cause

(1) Direct Cause

Enterotoxin type A propagated as staphylococcus bacteria increased due to extended heating time of collected skim milk material since proper action was not taken when the product line of Taiki plant stopped due to power outage. The outbreak of food poisoning was attributed to the dairy products that were produced from the toxic material.

(2) Main Cause (Organizational Cause)

Toxin propagated due to the increase of bacteria since proper action was not taken when the product line stopped due to power outage. The toxic material was sent to the next level of production line instead of being discarded.

- Failed to take necessary sanitary precautions at the site.
- Lack of awareness of crisis management at the site, no policies in place for power outages.

There was no policy ascribed as to the prevention of increasing bacteria, restarting operation, product inspection, or disposal criteria when the production line stopped due to such incidents as power outages.

When the number of bacteria in the produced skim milk powder exceeded safety standard, the material was considered to be safe to be reused if sterilized and the new skim milk powder was produced out of the toxic material and shipped to Osaka plant.

- The plant manager and his staff not only did not have full knowledge about enterotoxin but also lacked the basic knowledge that toxin generated from bacteria did not lose its toxicity by heating.
- Lack of basic knowledge of food sanitation.
- Corporate standards were not strictly kept. Basic manuals were stultified.

(3) Cause of Expansion (Organizational Cause)

After the outbreak of food poisoning occurred, the delay in recollecting products and making intra-company and public announcements accelerated the spread of the disaster.

- The first mistake was that the initial sign was judged as “a usual complaint or inquiry”. There was no awareness that it would be food poisoning.
- High brand consciousness verses low awareness of crisis management among top management. Delay in making decisions against recall and making intra-company and public announcements. Inattentive involvement of the top management people. Irresponsible management system. Lack of leadership.
- Suppression of the facts due to evasion of responsibility. Incompetent communicative function.

4 . Immediate Action

- 1) The Osaka City government investigated the affected people and inspected the Osaka plant. And they directed Snow Brand to desist from making, and to recall the low-fat milk, and make an announcement of the facts. The recall order was made on June 30.
- 2) On July 1, the Health Ministry conducted a joint inspection on the premises with the Osaka City government.

- 3) The Osaka City government identified it as food poisoning caused by a disease agent of staphylococcal enterotoxin type A and prohibited operation of the Osaka plant on July 2.
- 4) On July 11, Snow Brand suspended the production of dairy products at 21 plants.
- 5) On August 18, regarding the mass food poisoning caused by the product of Osaka plant, the Osaka City announced that toxin (enterotoxin type A) of Staphylococcus bacteria was detected from the skim milk powder produced (on April 10) at Taiki plant.
- 6) Hokkaido Prefecture began to investigate the Taiki plant from August 19 and announced their findings on the power outage which occurred on August 23 that affected the production of the toxic skim milk powder, violated use of skim milk powder contained viable cell count that did not meet its standard, and detection of enterotoxin type A in the stored sample of skim milk powder produced on April 1 and April 10. Hokkaido Prefecture also charged violation of Article 4 of Food Hygiene Law and ordered a ban on the business as well as to recall the skim milk powder produced on April 1 and April 10.
- 7) The Health Ministry considered a mandate on the toxin tests on material for skin milk power at milk product plants nationwide that are administered by Hazard Analysis and Critical Control Point (HACCP), and also to add enterotoxin in the group of hazardous causative agent. They also made provision to establish sanitation guideline or to install HACCP to prevent from occurrence of similar food poisoning incident.

5 . Countermeasure

- (1) Snow Brand established the improvement plan including the power outage control measure of Taiki plant.
- (2) Snow Brand executed radical organizational reformation.
After the incident, Snow Brand drastically reviewed complicated corporate organization that was considered as a remote cause. They abolished branch or division system and established the product safety management office directly controlled by the president to improve product quality control.
- (3) The Health Ministry has considered a mandatory toxin test on material for skin milk powder at nationwide milk production plants that are administered by Hazard Analysis and Critical Control Point (HACCP), and also to add enterotoxin in the group of hazardous causative agent. They also made provisions to establish sanitation guidelines or to install HACCP to prevent from occurrence of similar food poisoning incident.
- (4) The Japan Dairy Industry Association organized the quality control / crisis management manual and publicize about the industry best they can.

6 . Summary

The Snow Brand food poisoning incident left immense damage to the 75-year old

time-honored company, which led the top management people to resign. It was initiated from the unexpected cause, power outage, at the Taiki plant, and the outbreak of food poisoning was attributed to lack of risk and sanitary management at the production site of skim milk powder. Moreover, incompetence in communicative functions, lack of risk management or leadership among top management people delayed making announcements and collecting products, which resulted in the spread of the disaster.

The production site of the skim milk plant was not the only cause of this incident. The disaster was exacerbated because proper action for disclosure of the situation was not taken, and responsiveness of the top management people were called into question.

Snow Brand needs to seriously reflect upon the increase in affected people due to the delay in disclosure, sloppy sanitary management at the Osaka plant and the Taiki plant, and low awareness of safety issues as a food production company. Restructuring of the basic safety controls is strongly desired.

7 . Knowledge

(1) Manual becomes stultified.

Employees cannot follow the manual or deal with unexpected occurrences.

When incidents beyond the scope of the written manuals happened, such as shipping products that did not meet standard values or a power outage, no action was taken.

(2) As time passed by, basic knowledge in the organization or office faded away. In this case, the plant manager and employees lacked basic knowledge of food sanitation. The case of JCO critical accident also told us about lack of or degraded basic knowledge of nuclear reaction. It is necessary to periodically improve awareness by refreshing the organization or the office.

(3) When problems occur, the facts will be suppressed due to evasion of responsibility at the charged position. Staff come up with some ideas, but do not have the courage to act and the problem become bigger.

(4) Inconvenient information that harms operation does not reach to the top management people. Information is not transmitted (especially in the corporation that tends to be operated by demerit system).

It is important to create a corporate organization where information is easily transmitted.

In an ideal organization, a person in charge can frankly tell even the inconvenient information to top management people.

It is important to establish an organization where information of all the products including consumer problems can be shared.

(5) Top management people always need to be aware of the importance of risk management. When problems occur, they need to take actions to properly disclose information without

suppressing the facts, to take quick steps to clarify the cause or to recall products (since only top management people can make decision on these matter.)

8 . Background

“The dairy industry was the top runner in sanitary management”, the industry believed until the outbreak of the Snow Brand food poisoning occurred. In January 1998, the major dairy product companies including Snow Brand were the first industries that met the standards of Hazard Analysis and Critical Control Point (HACCP) administered by the Health Ministry.

To obtain HACCP, every dairy product company all together compiled work procedures of production process in its manual. At last the amount of the manual per factory went over two files and each file was as thick as 7 to 8 cm in A4 size. The accurate manual has raised a myth that “the company that uses the most perishable material (milk) is the most hygienic.” In the food industry, the tendency that making manuals to obtain HACCP or ISO was everything they needed to do was going around, but the manual was nothing but a manual. It did not mean anything if the manual was not utilized to manage work processes. Putting too much confidence on manuals prevents from being able to deal with unexpected occurrences. Snow Brand was not following its manual for some work procedures such as cleaning valves. When toxins were found from the skin milk powder at the Taiki plant, no action was taken and caused the outbreak of food poisoning. In the food industry, to beat cost competition, more part-timers or temporary employees are hired as substitutes for full-time employees or operations are put out to subcontractors. It is hard to say that the manual is fully applied even though manufacturers proceed in compiling everything in manuals to keep certain quality from less experienced part-timers or subcontractors. Possession of manuals does not guarantee the confidence in a company. The greater importance is if employees are able to follow the manual or to respond to unexpected occurrences. Manuals themselves cannot control safety of company.

<references>

- [1] Summary of the Second Snow Brand Food Poisoning Countermeasure Meeting (July 14, 2000)
The Sanitation division of the Ministry of Health and Welfare
- [2] Summary of the First General Sanitary Control & Production Process Assessment Review Meeting (August 30, 2000)
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- [3] Background of Staphylococcus Food Poisoning by such as “Snow Brand Low-fat Milk” (September 4, 2000)
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[4] Background of Staphylococcus Food Poisoning by such as "Snow Brand Low-fat Milk (September 21, 2000)

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[5] Summary of the Fourth Snow Brand Food Poisoning Countermeasure Meeting (September 29, 2000)

The Sanitation division of the Ministry of Health and Welfare

Sequel

Snow Brand did not fundamentally reform the cultural organization and closed the case with conventional remedies, as everyone was worried, in 2002 they raised another scandal of "beef mislabeling incident" (that the Kansai meat center of Snow Brand Food Co., the subsidiary of Milk Products Co., misused the domestic beef buyback system, a measure to fight BSE, and had industrial group buy the forged beef by misrepresenting imported beef as domestic beef). Consumer confidence against Snow Brand was diminished due to these consequent scandals and Snow Brand ended up with not even being able to prolong their existence as a corporation.