

Learning from “Near Misses” in Sanitation

Experience is often the best teacher and learning from mishaps that almost happened is just as important as learning from those that do. In the occupational health and safety sector, incidents that could create larger problems—such as repositioning a box on a shelf before it has a chance to fall, or cleaning up a spill before an employee can slip and fall—are recorded as “near misses.” These incidents are valued not only for their immediate impact on safety, but also for their ability to point out flaws in existing processes.



In the food industry, sanitation near-misses can take the form of:

- Finding a clean drain brush stored with other clean brushes that are used on food contact surfaces
- Storing food-grade sanitation chemicals in the same room as office cleaning supplies
- Storing allergen ingredients in unlabeled containers
- Forgetting to verify the cleanliness of a processing line after a sanitation activity has been completed

Lack of proper sanitary conditions in a food processing facility may be the cause of about 1 in 3 recalls in North America. Creative preventive controls that work hand-in-hand with learning from near-misses to create and expand sanitation safety standards, potentially making food safer overall.

Recommendations on Preventive Strategies

After the introduction of FSMA in 2011, sanitation preventive controls gained prominence as one of the most important risk-based food safety measures, especially within the Preventive Controls for Human Food Rule based on 21 CFR 117 requirements. In a nutshell, the minimal sanitation requirements for processing facilities went from GMPs to risk-based preventive controls, which need to be monitored and verified, with the records maintained for proof of conformance. This more stringent standard doesn't require validating cleaning protocols so far, but it is highly recommended as an industry best practice.

Creating proper sanitation controls is about much more than just fixing a problem when it has occurred; it is about planning ahead to addressing the root cause(s) of issues to avoid not only actual but also potential, food safety problems from happening in the near future. Management's commitment toward establishing and maintaining preventive controls, as well as educating and training employees in a food safety culture, can make a substantial difference.

The following are some proactive approaches that could help avoid near-misses during an operational sanitation regime:

(a) Conduct a comprehensive food safety hazards risk assessment

Conventionally, biological, physical, and chemical hazards are included in food safety plans, but regulations also require sites to consider risks from radiation, economically-motivated hazards, and emergency-related hazards if these are identified as possibilities. Having a robust food safety plan that has a detailed hazard analysis (including biological, physical, chemical, radiation, economically-motivated, and emergency-related hazards) in place can act as a good blueprint in avoiding any sanitation-related (or other) mishaps within a facility.

(b) Manage the process flow to control contamination

To avoid any potential violations in hygienic zoning between, say, the raw and Ready-to-Eat zones, the site must control the process flow. This should reduce the chances of cross-contamination or allergen cross-contact happening. Along with this, the flow and movement of air, water, waste, people, and items must be monitored, as uncontrolled flow may compromise food safety and sanitation. [Learn more about hygienic zoning here.](#)

(c) Make use of color-coding as a preventive control

Color-coding is effective and relatively inexpensive. As a preventive control, it can communicate the process status, act as visual cues for identifying items (e.g. equipment, tools, and clothing), separate hygienic or sanitary zones, and help promote food safety culture among employees. A good example of avoiding a "near-miss" in sanitation could be when yellow pipe brushes are used to clean food conveyance tubes and black pipe-brushes are used on drains. The color differentiation aids in avoiding accidental misuse in the areas, which could trigger a product recall or cause sickness. [Learn more about using color-coding as a preventive control here.](#)



(d) Implement a well-integrated cleaning and sanitation approach

Having good Sanitation Standard Operating Procedures (SSOPs) is important, but equally so is the education, training, and competency of the employees who are carrying out sanitation tasks. SSOPs should at least include:

- Methods of cleaning and sanitizing food-contact surfaces
- Methods to clean non-food contact surfaces
- The area/equipment/tools that must be cleaned
- People responsible for carrying out sanitation plans
- Hygiene standards for sanitation employees
- Appropriate maintenance and care of facility areas, equipment, utensils, and tools
- Other pertinent details necessary for the staff to conduct sanitation activities

(e) Invest in hygienically designed facilities, equipment, and tools

Hygienically designed tools, equipment, and materials of construction are easily cleanable, more durable, and are less like to carry contaminants of a food safety concern (e.g. allergens, foreign materials, and pathogens). There are various industry standards on hygienic design, e.g. 3-A, BISSC, etc. Most recommend that tools be: cleanable, of food-safe material, have easily accessible surfaces for cleaning, don't have niches or gaps, and have smooth surfaces. [Learn more about hygienic design in industry brushware here.](#)

(f) Monitor and maintain the quality of the sanitary environment continuously

There is a saying in the management circles – “what gets measured gets done.” Monitoring near-misses and acting upon them goes a long way in avoiding any sanitation or food safety mishaps likely to occur in the future. A good monitoring program not only verifies the effectiveness of sanitation tasks, but also tracks the key hazards (pathogens, allergens, and foreign material contaminants) that help in developing, implementing, and maintaining risk-based food safety prevention programs.

Aiming for Zero on Sanitation Near-Misses

Though processors can and should learn from any near-misses, it's vital to also continue to improve the processes, conduct regular employee training, and explore relevant tools to eliminate or reduce these almost-mishaps. Here are some tips for the industry:

- Allocate resources to issues that are most critical to food safety and sanitation, and monitor or trend them regularly to ensure continuous compliance. Educating and training staff members conducting these tasks is most important.



- Do not take a “near-miss” on a sanitation issue too lightly. Conduct a thorough analysis of its root cause and consider all significant factors.
- Test your food safety system to ensure it is resilient and able to stand up to the “worse-case situations” that may compromise food safety and sanitation. Avoid falling into the “comfort zone” of assuming that everything will always be fine.
- Encourage employees to report any near-misses in sanitation even when food safety, integrity, quality, and legality has not actually been compromised. Management can then deal with these cases on a risk-by-risk basis and take steps to ensure they don’t happen again.
- Invest in tools and technologies that can make a beneficial difference to food safety and especially to the sanitary conditions in the plant. Proper selection, storage, care, and maintenance of cleaning and material handling tools, for instance, can make a positive impact.

Preventing sanitation mishaps can go a long way in assuring auditors, inspectors, customers, and other stakeholders that the facility is processing safe and wholesome food. The goal for the food industry, therefore, is to work toward significantly reducing or eliminating the near-misses encountered during sanitation that might compromise the product safety or the sanitary conditions within a food processing environment.

Selected References

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