

Occupational safety at the Nestlé Research Center

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Abstract

“Safety is non negotiable” is the basic principle expressed by Peter Brabeck-Letmathe, CEO of Nestlé, the number one food company, in relation to safety throughout the entire organization. This principle obviously applies to products and operations as well as to occupational safety. Management is responsible for safety and defines guidelines based on legislation, official norms and corporate policy. It delegates the application of these guidelines to specialists, e.g. safety managers, safety animators and instructors, through a Safety Committee comprising delegates from all functions in the organization.

The laboratories of the Nestlé Research Center are provided with the appropriate safety equipment. The pilot plant benefits from the support of engineers and specialized technicians from the workshop. Although some safety instructions and procedures are sometimes regarded as constraints by scientists and technicians, they are increasingly accepted and more rigorously applied thanks to the efficient support of safety animators.

Keywords: safety, research, laboratories, pilot plant, workshop, working place analysis, biohazards, technologies, fires, explosions, accidents.

1 Introduction

The basic principle expressed by Peter Brabeck-Letmathe, Chief Executive Officer of the world’s leading food company Nestlé, in relation to safety is: “safety is non negotiable”. This obviously applies to all units in the organization, and particularly to manufacturing and R&D functions. Owing to its specific research activities in food science, nutrition, health, quality and safety, the Nestlé Research Center applies appropriate rules and organization as required by local legislation [1–3], industry standards and company policy.



2 Organization

The management of the Nestlé Research Center (NRC) is responsible for safety and defines guidelines based on legislation [4], food industry standards [5–7] and corporate policy. It delegates the application of these guidelines to specialists, e.g. safety managers, safety animators and instructors through a local safety committee.

The position of safety animator has been recently created at the NRC. Safety animators are employees working in the laboratories or in the pilot plant. They are close to personnel and can directly assist them with safety-related questions. The main tasks of the safety animators are the following:

- develop and maintain safety awareness of the employees,
- inform and coach new employees, particularly temporary personnel,
- inform the safety committee and management about potentially hazardous situations at work,
- propose action to improve the safety status,
- ensure follow-up of corrective actions,
- collect observations about risks and dangerous situations from employees,
- distribute safety instructions within their working groups,
- maintain a close relationship with head of safety,
- communicate accidents and near-accident situations occurring within the facility,
- actively participate in annual prevention campaigns.

3 Safety equipment

All laboratories are equipped with standard safety apparatus comprising fire extinguishers, safety covers, showers, adsorbent material for liquid chemicals, etc. In addition smoke detectors are deployed throughout the buildings. Special laboratories are available for research activities requiring particular care in relation to toxic chemicals, radioactive materials and micro-organisms. For the pilot plant, engineers and specialized technicians from the workshop support the construction, installation, and maintenance of machines and pieces of equipment particularly when electrical, high pressure or heat supply (high-pressure steam) are concerned.

4 Information and training

All staff are trained as appropriate. They also regularly receive information and instruction about safety and safety-related initiatives, for example:

- basic information on safety rules and safe behaviour while working in a laboratory and in the pilot plant is given to newly hired personnel within one week of their arrival,

- the working place environment is analyzed by the safety animators, on the basis of check-lists supplied by an external organization specialized in safety consulting,
- basic practical training on the handling of fire extinguishers on open fires is given on a regular basis in a field outside the research facility with the help of the company's trained fire fighters,
- dedicated campaigns, e.g. on reducing cuts while working with sharp tools and glassware; on reducing risks of falling from heights such as ladders and scaffolds but also while walking on stairs; on choosing the most appropriate gloves and other material to protect from heat, cold or exposure to different chemicals.



Figure 1: Training on the use of fire extinguishers.

5 Special rooms

In addition to offices and standard laboratories, different areas dedicated to specific research activities are available at NRC. A pilot plant equipped with high-pressure and cooking vessels, bio-reactors, spray dryers, etc. is available for trials on a kilogram scale. Activities requiring low temperatures are performed in cold rooms (down to -40°C) for which special clothing and instructions are given. Experiments in microbiology where biohazards are present are performed in dedicated spaces as required by the legislation. Similarly, assays with radioactive tracers are confined to specific areas. In all of these situations, access is restricted to authorized and trained personnel only.



Figure 2: The pilot plant.



Figure 3: Recent technologies: high pressure.



Figure 4: Chemical products correctly stored.



Figure 5: Showers in the corridors.



Figure 6: Cleaning days.

6 Developed measures

Various measures have been adopted and further improved to ensure a high level of safety awareness and adequate behaviour of personnel in the working place. Instructions and specific training are given on the use of special areas, such as the pilot plant to ensure safe operation of installations and new equipment. Chemical products, which are widely used throughout laboratories, are stored in appropriate cupboards designed to ensure safe and environmental friendly storage. In addition, “cleaning days” are organized annually to remove out-of-date and unused chemicals. These are sent to an external company for disposal. This reduces exposure to potentially harmful substances and decreases risk in the case of fire.

7 Conclusions

Safety measures are generally not very popular in a fundamental research environment as they are often seen as a constraint. However, thanks to the efficient support and commitment of safety animators they are now well understood and applied with success by all research staff. The key role of safety animators is to inform and to convince the laboratory personnel to adopt adequate safety behaviour based on a risk analysis, rather than trying to enforce the application of a strict set of rules.

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