Guide to increased quality in the large-scale catering establishment:

How can I improve the safety and quality of food handling?

Safety and quality

Safety and quality are the cornerstones of all activities that involve the handling of food. Serving good-quality food using fresh ingredients is something about which everyone who works in a kitchen environment is passionate. On the other hand, a lack of regard to safety and quality may have serious consequences. The worst-case scenario would be a customer or guest falling ill because of the food. However, even if people do not fall ill, the reputation of the business may be at stake.

Those of you who are responsible for internal controls at a municipal or county council operation and who need to ensure that your operations comply with the internal control plan know that it can be difficult to obtain a good general overview. You are not in the kitchens on a day-to-day basis, and nor do you have the opportunity to travel around checking them. As a manager and decision-maker, any situation that arises would also have consequences for you.

Internal controls must be transparent and manageable for managers, and in major multi-operational organisations – such as municipalities, county councils, and restaurant and hotel chains – challenges may also arise in the maintenance, updating and distribution of internal controls.

It is not that easy to understand how to effectively minimise the risks, as there are many different factors to consider. We have therefore created this document to give you some guidance on a number of issues that are often of great importance.

HACCP

Everything is based on an EU law called HACCP. HACCP stands for “Hazard Analysis Critical Control Points”, which has its origins in NASA’s Apollo lunar programme of the 1950s and 1960s. There could have been catastrophic consequences if the astronauts had eaten bad food and become ill in space. This has been part of the EU regulations since January 2006, and if you have any critical control points, you must implement a full HACCP plan.

After a somewhat slow start compared with our EU neighbours, awareness of HACCP’s work has also become evident in Sweden – although, saying that, some have come further than others. However, everyone has to start somewhere.

An HACCP plan or internal control plan may look something like this:

Basic conditions

Basic conditions are just that – the foundation of all food handling. This means, for example, that the business must have suitable premises and equipment etc.

The following areas are the foundation of internal control:

- Staff training
- Personal hygiene
- System premises, equipment and maintenance
- Cleaning
- Pest control
- Temperature monitoring
- Water quality
- Goods reception
- Information: labelling, integrity
- Traceability
- Microbiological and chemical criteria (for microbiological criteria, see regulation (EC) no. 2073/2005 under the more detailed information on this page)
- Specific requirements within certain special areas
- Hazard analysis and HACCP

There is a great deal to keep track of and it is not always that easy.

Certain points are more important than others, such as temperature monitoring to ensure, for example, the quality of raw materials or to document the refrigeration chain on the delivery of refrigerated goods. Conversely, other procedures do not have to be documented at all. Here, it is sufficient for staff to know the content of the procedure.

Hazard analysis

Once the basic conditions are in place, you must conduct a hazard analysis of your operation in which you analyse the risks/hazards associated with the raw materials and preparation. For each element and raw material, you must analyse the microbiological, chemical, physical and allergenic hazards.

This is the first part of your HACCP work, and the person who carries this out must be HACCP-trained. This may be someone within your organisation, or you may also engage a consultant for this.

The actual procedure documentation (for those that need to be documented) may have various slightly different formats. It is often in paper format – a printed document on which the staff enter the date and their signature once the job has been completed. This method is absolutely fine, though in larger organisations it may seem a little tiresome. When new procedures are added or procedures are updated, you will want all operations to start to use the new procedures as soon as possible. Centrally, it can also be difficult to know exactly which procedures are running at which operational units. Another difficulty that may arise in connection with manual control points is the difficulty of comparing the HACCP work of various operations without undertaking site visits.

Analysing all elements of your work improves safety and quality. Try to automate where possible – for example, temperature controls – and use scalable systems with scope for multiple operations under the same roof.

Automation required

One way to minimise the risk of the above is to use digitised control points. As the person in charge of internal controls, you can always ensure that all your operations have up-to-date control points and check where – if at all – documentation work is being neglected. In the event of changes, such as those brought about by legislation, you can easily distribute new and appropriate control points to your operations. When new operations are added, it is also easy to create a new, digitised internal control plan with the same basic conditions as your previous operations. You will also have standardised documentation of all your operations in the event of any health, safety and environmental checks.

Automatic temperature monitoring – which is part of the concept of digitised internal control – frees up staff resources for use in other parts of the operation.

With manual temperature management, the temperature has to be written down once a day. This is often done at the start of the working day, when the temperatures of refrigerators and freezers are at their best. During the day, refrigerators/freezers are opened, resulting in fluctuations in temperature. Your manual temperature monitoring does not pick up these variations, which may have an effect on the products in the refrigerator/freezer.

Why automatic temperature monitoring?

The advantages of automatic temperature monitoring are numerous.

- **Continuous measurements throughout the day and year**
  A logging frequency of 30 minutes will provide 48 measurements a day, making it easy to monitor at what time there is a risk of interruption to the refrigeration chain. It also provides an average temperature for the day, which in many cases is the most important indicator of whether the products can be used or whether they need to be discarded. You can set a maximum/minimum daily average temperature and document any deviations.

- **Alarm function**
  In the event of a sudden rise in temperature – for example, in the event of breakdown, a power cut or quite simply when someone has forgotten to close the door – the person in charge will receive an SMS or e-mail and can thus take any necessary action. In the case of, for example, a freezer containing a high value of stored products, a lot of money can thus be saved if things go wrong.

- **Measurement of incoming goods**
  Checks on receipt are simple when using a handheld unit connected to the system. Everything will be documented automatically, and you will also be able to follow up any suppliers who are neglecting the refrigeration chain. Deviations are generated whenever the temperature falls outside the set min./max. values.

- **Cooling processes**
  Automatic logging of your cooling processes involves a cooling node automatically logging the entire process at five-minute intervals. Once the target temperature or time limit is reached, the entire process is sent to the web service, where it is presented in an easy-to-understand format in a graph. If the process fails to achieve the target temperature within the time limit, a deviation is generated.

Others have automated and this has led to...

Businesses that use digitised internal controls generally have better control and standardisation. For example, if you have two production kitchens and 13 receiving kitchens, you want the same basic control points in the two production kitchens and the 13 receiving kitchens. If there are special local needs, it is of course possible to adapt the system so that these are also managed by the digital internal control system.

Other municipalities and county councils have worked on the basis of a fundamental template of control points when digitising their internal controls. To cover all requirements, those specific requirements for each operation have been adjusted on the basis of the template.

Following the introduction of digital internal control, the result has been an improved general overview of HACCP in the various operations in the municipality. This in turn makes life significantly easier for the central HACCP administration and those in charge there.

When a situation arises for which facts are required, those responsible for internal control can quickly and simply log into the operation in question and extract reports and temperature logs. Once the system is set up at the operational unit, the staff need only sign the work tasks digitally instead of manually using pen and paper.

How do I set up requirements for solutions?

It is not that difficult to introduce digital internal controls, but sometimes you need a bit of advice. For this reason, we have created a document that describes how you can set up requirements for digital internal controls – based on the reality of your situation. Find out more about setting up requirements for digital internal controls here.

About the author

Carl Strömberg has an IT background and long experience of web-based services. He has worked on digital internal control since 2005, as a project manager, product owner and developer.

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