

Control through new technology

by Dr Lisa Ackerley, Hygiene Audit Systems Ltd, Albion Mills, 23a Albion Road, St Albans, Herts AL1 5EB, UK.

HACCP, a food safety management system, has been around for many years, and in a diluted form in legislation from 1995 in the Food Safety (General Food Hygiene) Regulations.

Since 2006, however, with the implementation of more stringent European legislation, there has been a legal requirement in the UK for a documented, verified and validated HACCP type system to be present in every food business.

But it is not enough to have a system, you need to have implemented it – this can really only be achieved through training and coaching. For compliance, the person in charge of the business also needs to understand the principles of HACCP and how it applies to their organisation.

For larger companies, HACCP has taken on an importance beyond legal compliance – it is an essential tool for trade. Those manufacturers requiring British Retail Consortium certification need to have a robust HACCP in place.

Without a BRC certificate many companies find it impossible to find buyers. HACCP is also an essential tool for those food businesses who may wish to rely on a due diligence defence, and more recently is a critical part of ISO 22000 (Food safety management systems – requirements for any organisation in the food chain).

A number of companies are now taking advantage of new technology to make HACCP implementation and monitoring more streamlined. So what is available, and how can it be put into practice?

HACCPworks has developed an on-line web-based HACCP development tool, where companies can build their HACCP plans on-line. Where necessary, a team approach can be used even where team members are in different parts of the country or even the world, as multiple access allows simultaneous viewing and amendment across a secure website.

The finished product can be viewed internally by all companies in a group, or externally, with permission; in theory, external inspectors, even potential clients could view the system prior to visiting.

At Hygiene Audit Systems new clients have approached us because they have found that HACCP systems on their own

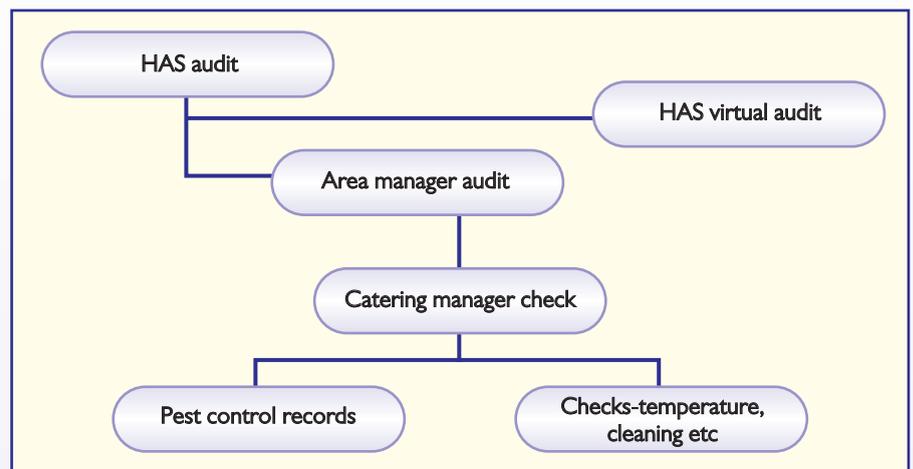


Fig. 1. The verification trail.

often go wrong for the following reasons:

- Someone else wrote it.
- Not implemented.
- No training.
- No checking or monitoring.
- No action.
- No review.

We have therefore worked with HACCPworks to provide solutions to these issues. These include:

- HACCP team approach guided by consultants.
- HACCP always modified to suit the type, size and culture of the business, but using templates where possible to save time and costs.
- Bespoke coaching and training for rolling out the HACCP within the company.
- Ensuring through the team approach, and with coaching, ownership and responsibility.
- Effective auditing – checking the CCPs, instant reports, compliance targets set and feedback.
- Assistance when needed – but no strings.
- Strategic consultancy – how to get the best out of the audits.
- High quality food safety data collection, monitoring and assessment.

However, we all know that HACCP is more than just having documentation in place. HACCP plans need to be supported through effective implementation, training, validation and verification and they must not go stagnant – regular reviews are needed.

The HACCPworks system has much more to offer than simply providing a place for HACCP: it allows for comprehensive monitoring and recording, and even external auditing, virtual auditing essentially a verification trail. It is even possible to complete checks of thermometer accuracy using the system. By listening to what our clients want, we have together found robust solutions for companies who need to be more in control.

The verification trail

Having helped set up the HACCP system, we have then worked with clients to ensure that they have effective monitoring systems in place to provide a verification trail. From checks made by staff of temperatures, cleaning, opening and closing checks, through to weekly manager checks, area manager checks and external audits, all these are recorded in real-time which means there is no completing the records today for tomorrow, and no filling in the records with different coloured pens a week later! Some people may not feel comfortable with this, but those with overall responsibility can see, through exception reporting, where the gaps in the system are, before they cause an issue. More recently we have seen the value of companies asking for pest control opera-

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tive to be logged on to the pest control page – this way the client at head office knows where there may be a presence of pests – even though it is under control, an infestation could put the business under serious risk of closure from an enforcement officer.

Using bespoke training courses, we have developed managers to be self-sufficient in monitoring and carrying out specially designed internal training. Our courses specialise on focusing on the company's food safety and HACCP policy. We train managers using a series of workshops, thus allowing them to familiarise themselves with their own system through problem solving.

Using accelerated learning techniques, the courses are fun and memorable, with no Powerpoint in sight!

With HACCPworks and various partners in hardware, we have set up monitoring systems to include the following:

A hand-held device that is used to enable managers to check, record and send to the website:

- Temperatures and details of food deliveries.
- Food cooking and cooling temperatures.
- Cleaning standards.
- Management checks.

Radio Frequency (Wireless) Temperature Monitoring to check and record directly to the website:

- Fridges.
- Freezers.
- Blast chillers.
- Dishwashers.
- Energy consumption by equipment or defined area of premises.
- Water consumption.
- Footfall.
- Handwashing frequency.

In addition, managers and auditors can log on to the site to carry out virtual audits, or enter their own findings from inspections; these checks can be input live onto the system using any web browser. Because there is no need for software, the site can be accessed anywhere in the world. We have even heard of managers logging on to internet cafés whilst on holiday to check their units – or is that taking food safety too far?

Our food safety audits are entered live onto the HACCPworks website, enabling clients at Head Office to observe progress and take action quickly.

Following the audits, real-time action plans remind managers to take action within agreed time scales, and exception reports can advise senior staff if this has not taken place.

This action can be checked externally if the client requires, through a 'virtual audit' carried out by a nominated consultant.

We have listened carefully to clients who have told us that the last thing they want is a huge pile of audit reports on their desk after an audit round. Instead, they need to be alerted when things go wrong through exception reporting.

Using 42" plasma screens in Head Office,

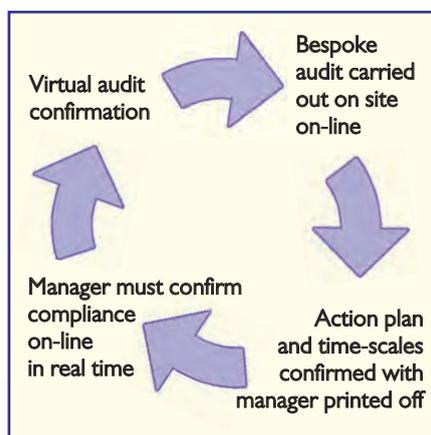


Fig. 2. The on-line audit process.

operations directors can have the satisfaction of knowing that if all the boxes on the screen representing their units, are green, then all is well.

However, if a parameter becomes dangerous, the box will turn red, and they will receive an email or text message to tell them what the problem is. They can then log on and find out more information.

Screens can be used locally to collate data in the same way – fridge temperatures can be displayed in this way – we have recently put a large screen in a kitchen to alert staff to problems.

Remote temperature monitoring is not new – but these RF systems have a number of advantages. Because they are wireless, the sensors can be moved from one chiller or freezer to another if necessary without incurring any costs.

Most importantly though, the data is sent seamlessly to the web site, dropping into the temperature records ready to view. In my experience, many automatic systems have failed clients in the past because the data goes nowhere but the on-site PC, often locked away in a cupboard and not interrogated. The PC has data to prove the case for the prosecution – that food was sold having been stored at an incorrect temperature. The company does not know until someone decides to unlock the cupboard and check the PC.

By going to a website, by linking to a kitchen screen or manager's screen, by sending email or text alerts, this data is live, and action can be taken promptly if there are problems. Clients are already benefiting from reduced stock loss as a result of having the system in place.

By having a virtual private network connection (VPN) which is optional, clients can benefit from site engineers being able to interrogate the system more, and carry out upgrades on-line. This is of great benefit where there is a large geographical spread of units within an organisation.

Remote temperature data collection can help in other ways – refrigeration engineers can be given web access to select parts of the site so they can analyse chiller or freezer performance and attempt to solve the problem

before arriving on-site. Experience has shown us that this means they will bring the correct tools and parts for the visit, thus reducing substantially the cost of wasted trips.

On the energy monitoring side, by using the RF receiver already in place to collect fridge and freezer temperatures, by adding special meters from Invisible Systems, one of our partners, electricity, gas and water usage can be monitored. We have found that increased awareness can lead to a saving of up to 20% on energy and water consumption – and this alone could more than pay for the cost of the hardware and website.

Food Standards Agency figures showed that up to one third of catering staff fail to wash their hands after using the toilet. In most businesses this would be a CCP failure. Invisible Systems technology has now enabled clients to link the RF data receiver to a tap or doorway sensor and chip adhered to an employee's ID tag. Again through the web site and manager's screen this can be used to monitor handwashing and even produce alerts if a member of staff fails to wash their hands prior to starting work, after going to the toilet, or when leaving a dirty area and entering a clean area.

Although there has been criticism of the system for ethical reasons – we need to think hard about whether this is an infringement of someone's rights. On a personal level, would you want to eat a meal that has been prepared by someone who has not washed their hands after using the toilet? This is a critical control after all.

Latest additions to food safety management are supply chain information, microbiological analysis results (uploaded from the laboratory) and positive release information.

Finally vehicle tracking has been in place for some time, but now using the new technology you can track vehicles on a website and click on the icon of a lorry to see what temperature the vehicle load is currently maintaining. Effectively, you could reject the food before it even arrives (and get on with ordering a replacement).

If this all seems futuristic, or even gives you worries of 'Big Brother' taking over, think again – do you want to be in control of your food business or do you want it to be in control of you? Do you want to know immediately when things go wrong so you can put them right, or would you prefer the EHO to tell you there is a problem using formal action?

The technology has arrived to give you remote control from your keyboard – or even mobile phone and after all, you can choose how far you want to go.

If there is something we have not thought of yet, the answer is yes – there is always a way, and we are willing to keep developing until the food safety net is well and truly secured. Our team thrives on innovation and helping our clients to get the best solution to food safety control. ■

FaxNOW +44 1727 844522

✉ lisa@hygieneauditsystems.com