HACCP INTERNATIONAL FOOD SAFETY PROGRAMME CERTIFICATION

HACCP INTERNATIONAL

FOOD SAFETY BULLETIN

ISSUE 9 2014

CAREL
Integrating efficiency and food safety

PHYSICAL CONTAMINATION RECALLS
An old problem revisited

OxyBAC™ BY DEB
Winner of major food safety innovation award

ALLERGENS
Practical control methods

Produced by HACCP International, a leading provider of food safety services - www.haccp-international.com

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Welcome

It seems like only a few years ago that HACCP International celebrated the establishment of its regional office in The UK and Hong Kong and we now approach another important milestone in our development with the opening of our fourth regional office in The United States. We are delighted to announce the commencement of American operations through our new base in Orlando, Florida in conjunction with Newslow and Associates, a renowned and respected food safety enterprise.

It is fitting that the opening of this new regional office coincides with this year's SQF conference in that same city in October. The SQF scheme has its origins in Australia and, we like SQF, are proud to be 'moving across the pond' from Australia, a nation with the highest reputation for food industry innovation and quality to one with a similar approach to this important subject. We hope to see many of you at the SQF conference.

We are delighted to welcome Debby Newslow and her team to the HACCP International family and look forward to working with them and the American food industry in the years ahead. Newslow's technical staff are truly excellent and we are pleased with the technical, as well as cultural fit, that we have found with that company (see page 11).

Clive Withinshaw - Director, HACCP International

We are delighted to announce the commencement of American operations through our new base in Orlando, Florida.

Our scheme 'Food safe materials, equipment and services' has been very well received across Australasia, Europe, Asia and, in recent years, The USA. It has attracted the attention of the food industry and suppliers there by meeting the precise due-diligence needs that modern HACCP based food safety and quality systems now require from non-food products that have incidental food contact or a major impact on food safety in their application. Importantly, and unlike many other schemes, ours addresses all the elements that such due diligence requires and is not limited to individual facets. As our promotional literature says, items carrying our mark are completely fit for their purpose in every respect of food safety – not just material selection, cleanibility or other individual requirements. The risk based methodology together with the key criteria gives the supplier and buyer alike confidence and assurance in a product's fitness for purpose.

In recent months, our regional and Australian technical teams have been evaluating some excellent products that have been submitted for certification. These include products from 3M, Kimberly Clark, SCA Hygiene, Electrolux, Bayer, BASF, Deb, Hoshizaki and Testo to name a few. These are all companies with excellent reputations for quality and it is no coincidence that they devote significant effort in ensuring their products are particularly appropriate for use in supporting food production and handling. Ingredient risks have been well addressed by the food industry over the last 10 years or so but, until recently, the risks from non-food products had less attention. This is changing and making for safer food products and a drop in food safety incidents and recalls. For more details of our certification scheme and the qualities that our mark represents, I encourage quality managers to contact any of our regional offices.

In other news, our branch offices are also seeing increased activity. It is particularly pleasing to see our workload in Fiji rising rapidly with food safety becoming the focus of improvement in the small island nation. Fiji is a country with ambitions in international food trade and the industry there is making big efforts in terms of food safety. We have seen high levels of both enthusiasm and effort in this and if these are indicators of an outcome, they will succeed. They deserve to do well and we are delighted to have a role in that.

We are old or old fashioned (actually both in my case!) at HACCP International and, in an attempt to move with the times, we intend to begin a migration to electronic bulletins next year. These paper based bulletins have been very popular and I hope that the e-version will prove equally so. Please stick with us and subscribe by sending your email address, to **subscriptions@haccp-international.com** or hit the tab on our web page. Thanks for reading.

For more information on any article in this magazine or to submit editorial or a comment please email to : **ifsb@haccp.com.au**

For more information about HACCP International's services, please email : **info@haccp-international.com** or contact one of our regional offices

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HIGH EFFICIENCY SOLUTIONS
HAND-IN-HAND WITH FOOD SAFETY
FROM CAREL

Ever since ancient times, mankind has needed to learn how to preserve food, so as to be able to survive periods in which there was scarce availability of game or between harvests.

However, it was only the advent of "mechanical cooling" in industry and subsequently the progressive introduction of home refrigerators (the first model went on sale in 1913) that allowed food to be transported and stored for long periods of time, maintaining its original properties.

Availability of fresh, healthy and good quality food, anywhere any time, for the most part depends on "cold chain" management, or in other words, ensuring the right temperature, fundamental for both frozen foods as well as fresh produce.

The guidelines established by international organisations and food and environmental experts recognise the following priorities:

Food safety
Food security
Food waste reduction
Environment
Energy saving

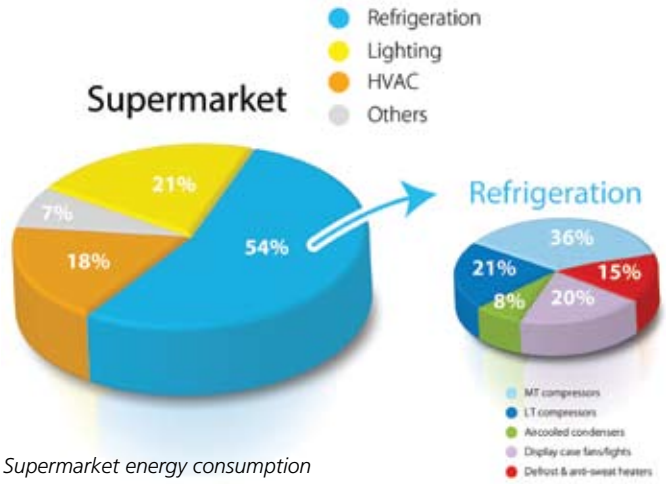
For operators in the food industry, the following are also important

Food quality
Shelf life
Reduction in running costs
Return on investment.

Here we look at how these objectives can be pursued by exploiting the best modern mechanical, thermal and electronic technology, combined with increasingly intelligent software.

In a conventional scenario, the devices and systems responsible for managing installations, compressor racks, showcases and cold rooms, lighting, ventilation, air-conditioning and so on operate totally independently from each other, consuming significant quantities of energy. Frequently, needs are divergent and reciprocal effects lead to an increase in costs and a decline in performance. Failures and malfunctions, for example high temperatures, are only identified when the negative effects are already evident and have an impact on food preservation. Repairs thus become more urgent and more expensive, and the food itself, in the worst cases, will no longer be fit for consumption and will need to be discarded (food waste).

With the latest solutions, such as the Carel Retail sistema, all the components in the system are designed to cooperate with each other, for the purpose of achieving the highest possible performance, in real operating conditions and in response to continuous changes to the systems. Energy consumption is reduced, and food preservation conditions are improved. (note: in a supermarket, around half of the energy



Supermarket energy consumption

consumption is accounted for by cold storage!)

With the PlantVisor PRO supervisory system, the first symptoms of a malfunction are recognised in advance (a key performance indicator), meaning corrective actions can be adopted before the faults become critical, and maintenance operations can be organised more affordably and at more convenient times.

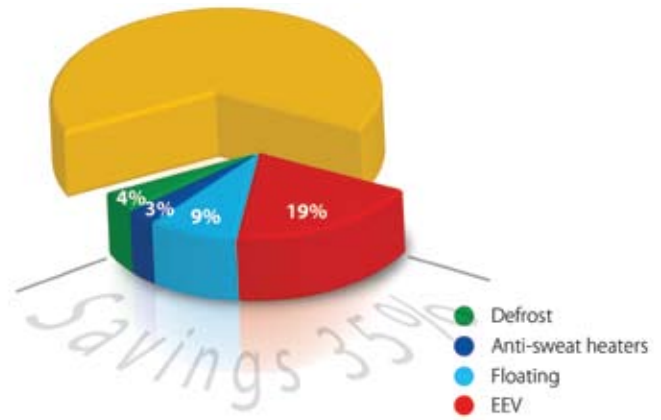
So how can energy be saved while ensuring the best possible food preservation?

Energy consumption = costs:

Compressor racks are the devices that use the most energy. These systems supply the various units with gas or heat exchange fluid in suitable conditions to remove the required heat.

In a refrigeration cycle, energy consumption increases with the pressure difference between suction (cold side, from the refrigeration unit) and compression (hot side, in general the heat removed from the process).

This difference can be reduced * using electronic expansion valves (Carel E2V), optimising compressor rack operation (Carel



Potential savings for refrigeration

CONTINUED ON PAGE 06

pRack), improving heat exchange in the refrigeration unit, and removing excess heat in the most efficient possible way (Carel Chillbooster or heat recovery systems).

Quite considerable energy savings can be achieved in this way, even up to 25-30%.

Benefits for stored food:

Every type of food has an optimum storage temperature and humidity level

- Outside of these parameters, produce tends to spoil quickly, its organoleptic characteristics are altered and a process of deterioration begins that can lead to the food becoming unsafe for consumption.
- The importance of temperature and the effects of time are quite easily understandable.
- The importance of humidity and the moisture content of foods is however not as clear.

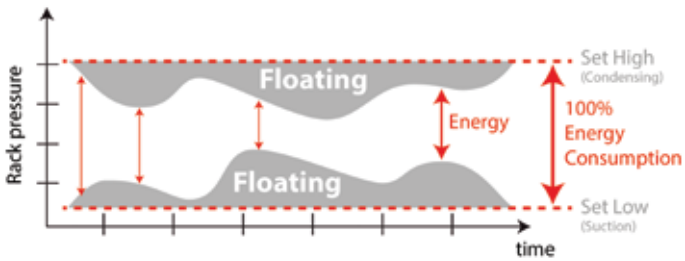
In simple terms, it can be stated that the more the refrigerated air temperature and humidity deviate from the ideal values for the produce, the more this "hygrothermal stress" affects food quality. Even frozen foods, albeit to a lesser extent than fresh produce, are affected by this problem.

> The most evolved systems automatically create performance analysis, indicators of deviation from optimum behaviour

In a traditional system, the refrigerant fluid temperature is fixed in the compressor rack at the value needed by the unit with the highest demand, thus assuming the least favourable cooling load conditions. As a consequence, the system and specifically the evaporators in the cold rooms and on the showcases (heat exchanger coils) always work at a lower temperature than is actually necessary, at higher costs - about 2% more energy for each degree less than needed.

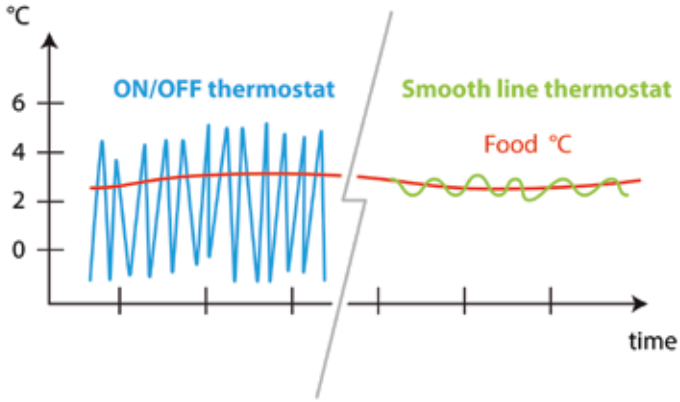
The air is thus cooled excessively, and following a cooling cycle the system switches off in order to return to the set temperature, meaning the produce is subjected to heat-cool cycles with variations of several degrees around the ideal average value.

With the Carel Retail Sistema, on the other hand, compressor rack operation constantly reflects the demand of each unit connected, adapting dynamically to real conditions



Dynamic adaptation

while the E2V valves on the units adjust refrigerant flow, and the MPXPRO controllers minimise fluctuations in temperature even in the most critical stages, such as when defrosting or in response to variations in load.



Smooth line thermostat

Food safety and CCPs.

The application of correct HACCP procedures in supermarkets and food industries that use modern control and supervision system is simplified by the availability of large quantities of useful information, through dedicated functions such as temperature graphs and tables, alarm signals and logs, print-outs, reports etc.

The most evolved systems automatically create performance analysis, indicators of deviation from optimum behaviour, alarm warnings for system malfunctions or inappropriate use by operators. In other words, all the critical points that may generate situations of risk to the produce and the equipment are managed at the origin.

This increase of food safety and quality does not however imply additional costs, as the savings obtainable in energy consumption mean a very short return on investment.

* see www.carel.com for case studies, presentations and congresses, including many produced in partnership with research institutes, universities, customers and leading companies in the industry.

Carel in brief:

> **"We recognise environmental issues as a Corporate priority"**
>
> This is the motto that guides Carel in the design and development of the most advanced technologies for effective food cooling control and management.

Over its 40 year history, CAREL has become a market-leading designer and manufacturer of humidification systems, microprocessor-based electronic controllers and solutions for the HVAC/R industry. It has gained an international reputation with over 70% of sales abroad, operating directly through 14 sales subsidiaries (France, Great Britain, Germany, Spain, Sweden,

Australia, Brazil, China, HK, India, South Korea, Russia, South Africa, USA), production plants around the world (Italy, Brazil China, USA), and a large international commercial network.

The CAREL Group has over 1000 employees with a turnover of 170 million euros in 2013.

CAREL offers a wide range of solutions for manufacturers, installers and designers operating in the HVAC/R sector, CAREL is also a global supplier of solutions and control systems for the retail market, and is heavily committed to basic and applied research into energy savings, reduction in environmental impact and innovation in the management of systems.

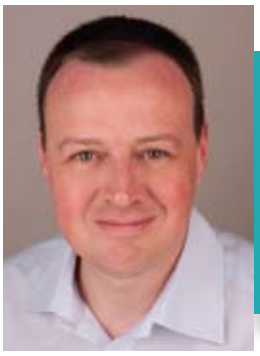
The entire range of Carel products designed specifically for refrigeration and retail applications, from NTC temperature sensors to control devices for stand-alone and centralised refrigeration units (Easy, IR33, PowerCompact, PowerSplit, MPXPRO) and for cold rooms (SmartCella, UltraCella) is certified by HACCP International.

Completing the system are the PlantWatchPRO and PlantVisorPRO supervisors, and Remote PRO software for centralised site control. These are also certified by HACCP International.

For further information visit:
www.carel.com

High Efficiency Solutions.

CAREL



ALLERGENS –

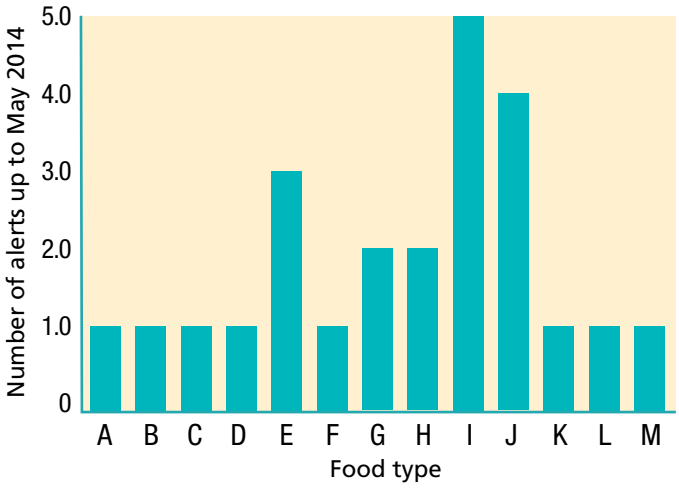
practical control measures in the food industry

By Richard Mallett, European Director of HACCP International

Look closely at the food safety alerts released on the U.K.'s Food Standard Agency's website - 24 allergy alerts have already been issued so far up to the beginning of May 2014.

Let's compare that to 5 years ago. In 2009 there were approximately 50 allergy alerts. If we consider that the figure of 24 for 2014 is not quite a half year figure it becomes apparent that the number of allergy alerts for 2014 is not likely to show an improvement on 5 years ago. According to the European Academy of Allergy and Clinical Immunology (EAACI) about 17 million Europeans have a food allergy.

A study released in 2013 by the Centres for Disease Control and Prevention, showed that food allergies among children increased approximately 50% between 1997 and 2011. So clearly this is an issue which is not going away. Here at HACCP International we thought it might be interesting to show an approximate break-down of allergy alert by food type implicated, from data collected by the Food Standards Agency over these first 5 months of 2014. Data showed that 38% of all alerts were for meat and chocolate products specifically, mostly as a result of allergen information not being declared. (see Fig.1)



A = Rice products
B = Lentil products
C = Meal bars
D = Curry products
E = Fish products
F = Sugar coated mixed fruit products
G = Cake products
H = Crispy potato slices/ crisp products
I = Meat products
J = Chocolate products
K = Tinned products
L = Stuffing products
M = Biscuits products

Fig. 1 Breakdown of allergy alert by food type implicated

Allergy alerts are issued when foods have to be withdrawn or recalled if there is a risk to consumers because the allergy labelling is missing, is incorrect or there is some other food allergy risk.

The figures are perhaps surprising considering the legislative pressure that has been applied to food processors by the European Union, requiring, back in 2005, the mandatory labelling of 12 specified food allergens. That list has now extended to 14, as specified in the Food Information for Consumers (FIC) Regulations and more are potentially on the horizon.

The Food Information for Consumers Regulations also tightens up the declaration, and formatting, on labelling, of allergens. The enforcement authorities throughout Europe take this issue very seriously and a food processor's allergen management programme comes under close scrutiny during inspections.

The issue is also tackled by the GFSI benchmarked Global Food Safety Standards including the British Retail Consortium's (BRC) Global Standard for Food Safety, adopted by approximately 20,000 food processors worldwide, with other standards such as IFS and FSSC 22000 not that far behind.

Within these Standards there are stringent, mandatory clauses requiring a processor to perform risk assessment, taking into account the nature and source of allergen, and adopt appropriate allergen controls, normally, though not always, through a pre-requisite control based allergen management process.

The aim is to reduce the number of allergen related incidents that require withdrawal or recall from the market. Loss of allergen control can arise from three main failures:

Practical allergen controls

A HACCP based allergen risk assessment programme is key to allergen management and control. As an example of this approach the BRC Global Standard for Food Safety requires risk assessment to establish the presence and likelihood of contamination by allergens, and the implementation of controls taking into account the nature of those allergens (dusts, liquids, solids).

Systems must be implemented to ensure integrity and compliance with specification throughout the supply chain. The following areas, managed as HACCP pre-requisite procedures can all help to reduce the potential for allergen misinformation or contamination:

- **Supplier and ingredient control** requires the review and management of supplier ingredient specifications to identify those which intentionally contain allergens and those which may, unintentionally, be contaminated. One of the potential pitfalls here is reformulation of the ingredient by the supplier without the provision of amended and updated specifications. Knowledge of the supplier's allergen management procedures is a factor and can be facilitated by something as simple as an allergen management questionnaire to determine allergen control procedures on the supplier's site and therefore the

overall risk of allergen cross contamination by the supplier. This can be followed, as necessary, or where information is scarce, by a formal on-site allergen audit.

• **Controlled on site food storage** by the processor requires segregation or other validated control to ensure contamination of non allergenic foodstuffs or ingredients by allergens is eliminated or reduced to a safe level. For very high risk, low threshold allergens such as nuts this might require entirely separate storage areas. For foodstuffs more likely to be the cause of intolerance, rather than severe anaphylactic shock, such as gluten containing foods, it may be sufficient to use separate shelves or racks, within common storage areas.

• **Segregated handling or processing** of foods, during production, may require entirely separate processing halls or even factories, especially in the case of high risk allergens such as nuts. Otherwise, and where risk assessment allows, the processor can employ time separation, so that allergen containing foods are made at the end of the production day and this activity can be followed by a deep "allergen clean down" which might not be possible during shorter, between-batch production breaks. Test kits and methods are quite widely available to measure residual allergen traces following clean down and to help with validation of this control. It is worth remembering that these test kits themselves, when used in house require validation. Alternatively allergen residual swabs can be tested by an accredited laboratory, having first checked that the scope of accreditation covers such testing.

• **Staff awareness** and staff movement control is a key area to consider. Higher risk allergens such as nuts may have to be handled, not only in separate areas, but by separate, visibly identifiable staff, wearing specific, often colour coded protective clothing. Staff training should always now encompass an element of allergen awareness and competence with regard to allergen management procedures. This training must be provided before food handling duties commence. Staff should be made aware of the types of food allergens that exist and that are legislated for. They should be made aware of potential sources of allergen cross control and misinformation such as use of the wrong labels or packaging.

• **Control of labels and packaging,** especially during product change-over, can prevent a foodstuff entering the market with incorrect or absent allergen warnings. This is a supervisory issue requiring a check that labels and packaging have been correctly changed over when a new product is being packed. The information that must be placed on labels and packaging, with regard to allergens, is a technical management and new product development issue. Common pitfalls are the use of a new or reformulated ingredient, new allergens being handled on site, new equipment being used, new layouts implemented, new production schedules drawn up or new cleaning regimes being put in place. Just as in Principle 6 of Codex HACCP, a review of the allergen risk assessment is crucial to ensure that changes to the allergen status of a product is identified and reflected on the label and packaging.

• **Allergen audits** can be implemented as part of the internal auditing process. The audit should ideally pick a final, packaged product and trace back through all storage, formulation, processing and packaging steps to the ingredients used, ingredient specifications held and the information supplied by the supplier in regard of their allergen controls. In this way the risk of allergen contamination and inclusion of intentional allergens can be validated against the allergen declaration and "may contain" information provided on the label or packaging for your chosen product.

• **Equipment selection** and use, together with materials of construction and design of surfaces such as floors and walls is often overlooked, even when all other allergen management controls are in place. Yet this control is just as key as the others. For instance, as a rough guide, the higher the IP rating on equipment the less likely it will be for particles of food, some of which may be allergenic of course, to become trapped. In more general terms equipment and materials selection must be influenced by cleanability and accessibility. Ask yourself the following question – Can I access all surfaces easily and are they designed to facilitate a deep "allergen clean down" to prevent them becoming a source of allergen cross contamination.

The same principle extends to cleaning equipment. In general, those surfaces and pieces of equipment, which can be cleaned and then disinfected to reduce to safe levels bacteria such as *Listeria monocytogenes*, should be at minimal risk of being a source of allergen contamination.

Allergen thresholds

The European Commission, using recent internationally recognised scientific evidence, has introduced compositional and labelling standards (Commission Regulation (EC) No. 41/2009) that set levels of gluten for foods claiming to be either 'gluten-free' or 'very low gluten'. This came into force in January 2012 and stipulates the following levels:

- 'gluten-free': at 20 parts per million of gluten or less
- 'very low gluten': at 100 parts per million of gluten or less - however, only foods with cereal ingredients that have been specially processed to remove the gluten may make a 'very low gluten' claim
- These regulations apply to all foods, pre-packed or sold loose, such as in health food stores or in catering establishments.

The sulphur dioxide and sulphites threshold has been around for some time now and is clear from the new FIC Regulations:

Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/litre in terms of the total SO2 which are to be calculated for products as proposed ready for consumption or as reconstituted according to the instructions of the manufacturers.

This and any future threshold developments may well have some consumer and industry benefits. For the allergic or intolerant consumer a reduction in unnecessary "may contain" warning statements will increase choice.

For industry some clear, quantified guidelines will undoubtedly help in the quest to devise sensible risk assessments and controls.

Deb Australia's OxyBAC™ takes first prize for innovation and excellence

The annual Food Magazine 'Food Awards' were held in Sydney on Friday 8th August. This is Australia's leading industry awards ceremony which recognises new and innovative products in the food and beverage industry sector.

Against stiff competition from a wide range of innovative products, the independent judging panel recognised the qualities of OxyBAC™ which resulted in them winning this prestigious award. With the category being open to so many products, the winner really does have to display a high degree of excellence and innovation. The category is open to all manufacturers of consumables, materials and equipment which are so important in supporting the food industry – especially in terms of food safety.

OxyBAC™ is a new, rich-cream foam, antibacterial hand wash that combines Deb Foam Technology™ with Accelerated Hydrogen Peroxide antibacterial agent to provide unique benefits compared with all other antibacterial hand wash products used in food industry environments.

OxyBAC™ has excellent physical cleaning properties to remove both visible food contamination and invisible bacteria and unlike all other antibacterial actives, hydrogen peroxide (H2O2) does not leave any toxic residual environmental contamination after use as it simply breaks down into oxygen and water.

Jason Rigley from Deb Australia (L) receiving the FOOD SAFETY & INNOVATION award from Clive Withinshaw from HACCP International

OxyBAC™ carries HACCP International's food safety certification.

Clive Withinshaw, Director of HACCP International said 'we were delighted that the judging panel recognised the qualities of this product not just because of the product itself but because of the importance of effective hand-washing products in food safety. This product is one of the few that has overcome all the issues surrounding anti-bacterial products and delivers a best practice solution'.

HACCP International's new USA office to service clients on the American continent

Welcome to the new Vice President, Debby Newslow

HACCP International is very pleased to announce the opening of its fourth regional office - in The USA. This office will be responsible for managing technical and commercial affairs for the American region. Debby Newslow of Newslow and Associates has taken up an additional role to become 'Vice President - Americas' for HACCP International, combining HACCP International's specialist services and certification programme with Newslow's current food safety and training operations. Debby is supported by an expert team of food scientists as well as the resources of HACCP International staff in The UK, Hong Kong and Australia.

The HACCP International office based in Orlando, Florida, allows HACCP International to offer its full suite of services to the food industry in The United States as well as Canada and key South American countries.

Debby Newslow, Vice President - Americas, HACCP International

Bill DuBose, Food Technologist and Business Development Specialist

Coupled with other regional offices in Australia, Hong Kong and The UK, HACCP International now offers truly global support to clients whose products carry the HACCP International certification mark and their customers.

Debby is a native of Needham, Massachusetts and is President of D. L. Newslow & Associates, Inc. After earning a Food Science & Technology degree from the University of Florida, her career began as a Quality Control Manager with T.G. Lee Foods, a division of Dean Foods. In 1985, Debby joined The Coca-Cola Company in its Minute Maid Division (CCF) as a Research & Development Food Scientist. In 1987, Debby transferred to Quality Assurance as a Corporate Auditor and Project Specialist, where she was instrumental in developing a GMP audit program, creation of a company standard Quality Assurance Manual, and assisting with ISO 9002:1994 certifications of three different process operations.

Debby's team include outstanding food technologists with excellent food industry pedigree. Bill DuBose is one such technologist. He is well known in the industry and has extensive experience with food industry equipment and materials and has already put those skills to use on our behalf. Clive Withinshaw, a director of HACCP International says' we are very lucky to have Debby, Bill and their USA team on board. Our food technology gene pool was already deep and has just got deeper! We really look forward to working with these outstanding people in the years ahead.

HACCP International's contact details in the USA are:

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REDUCE YOUR AUDIT COSTS

You might not be able to change the rate but you can certainly reduce the time!

by Martin Stone, Director of HACCP International

With the increase in requirements for demonstrating compliance to a given standard, audit costs are steadily rising across the industry. The ultimate cost of a food safety audit is based on the amount of time an auditor spends on site plus a travel component, also based on time. Typically, that total time is multiplied by a rate to yield the total cost. The trick to reducing auditing costs therefore, is to reduce the time of the audit.

There are three areas that I regularly see as having potential for reducing audit time which are under the control of the auditee. These include the evidence provided to the auditor, preparation for the audit and activities on the audit day itself…..here are some practical tips to ensure you are minimising your audit costs;

Evidence.

- Auditors base decisions on evidence. The better the evidence, the less time an auditor will take to make a decision. The best supporting evidence consists of relevant documents that get to the heart of a matter. Documents should be titled, signed and dated. Photographs should be headed and dated. Cross references should be logical and easy to follow. Make it easy for the auditor to join the dots and come to a correct and timely decision.
- Remember that facts are quicker for an auditor to respond to…compared to opinions….The provision of hard, concise and factual evidence will save auditing time and money.

Preparation.

- Read the last audit report carefully. Consider recommendations or any issues requiring close outs at this audit and be prepared with the chain of evidence that will be required. Expect the auditor to want to investigate any anomalies raised at prior audits and again, have relevant information at hand to provide to the auditor.
- Pre-audit yourselves. Imagine the non-conformances or questions that could be raised…be prepared with an answer and chain of evidence to support your assertions. By anticipating the questions to come from an auditor, you can be ready with the answers.
- Many facilities have lengthy induction/site entry programmes which are underpinned by the requirement for visitors to read and respond to lengthy documents. Consider if some of the induction programme for visitors can be conducted off site. A system that allows an auditor to complete some or all of an induction programme prior to arriving on site will reduce site time of the audit.

The audit day

- Ask the auditor; "Can we proceed quicker if possible, what can we do to reduce the time required?" Let the auditor know that you wish to keep audit time to a minimum and will do what you can to facilitate this. Ask the question at the start of the audit and again, for next time, at the closing meeting.
- Get a plan for the audit and ensure the relevant people available at each stage. If a key person is not available at a particular time, alter the audit plan to suite. Do not get in a position where you are waiting for a key person to finish a meeting before interacting with the auditor.
- Have someone available for the auditor to access at all times…. Think 'assistant auditor' and assigning someone like this can save you a lot of time. This 'someone' needs to know where all the references are and how to find anything that the auditor may request. The idea here is to keep the information flowing to the auditor, rather than receiving a big list of requests that result in dead auditing time whilst the required information is retrieved.

Get the documents ready to speed up this review component

- Ensure complete access to the plant is available for a single plant inspection. Having to go to and from the plant because one section or another is closed or in wash down or 'starting up later' wastes time. Tour the facility in a logical common sense manner. Start with receivals and end with dispatch. This makes the process easy to understand and will speed transit through the facility. Auditors need guiding, tell them where key monitoring takes place and point out 'places of interest' and those locations relevant to the programme being audited. Again, do everything you can to ensure the tour is a 'one-pass'. Coming back to the plant to check on something that was not observed in the first pass wastes large amounts of time.
- Develop a one page index of your system so that an auditor can find a relevant section quickly and easily. A diagram of the system component parts is also great to help an auditor who is unfamiliar with your system, pull it all together in their own mind. Understanding your system always takes some audit time but you can minimise this.
- Provide somewhere quiet and not cramped for the auditor

CONTINUED ON PAGE 14

to sit and review. A big desk or table that they can spread out on is essential.

- Ensure your records are organised, chronologically and complete. Check this yourself if you rely on others to put the records together. Missing records will waste time. If you discover missing records that cannot be located before the audit, determine a cause and be prepared for questioning by the auditor in this regard. If the records have been misplaced, ask the auditor if you can send them for review on a later date rather than making the auditor wait as you conduct a sweep of the operation.
- I recently reviewed a report where an auditor returned on a second day to complete an audit and logged only one hour of audit time for this day. They also logged an additional two hours of travel time for this second day. By staying back another hour, the additional travel time could have been avoided. Ask your auditor; "Can we stay back to complete rather than coming another day?"

Above all, try to eliminate the 'waiting for' moments in an audit…..waiting to see this item, waiting to find that document or waiting to see that person can be dead audit time which ends up costing your business money. Like most things in food manufacturing, planning really is central to minimising time and costs in this regard.

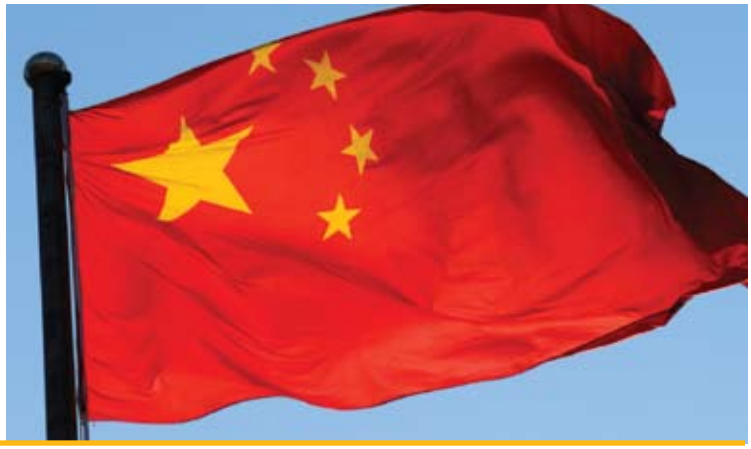
Let's face it, every year you should be getting better at audits so having shorter audits as an objective is a worthwhile and achievable target. Try setting the auditee team a KPI of reduced audit time and see if you can actively reduce your audit costs.

Good luck with the audit.

CHINA'S NEW FOOD LAW:

5 significant pending changes

Paul O'Brien,
China Food Regulatory Analyst, Author,
Editor and Industry Commentator



With the public consulation period ending on July 31st 2014, we are seeing the first article supporting regulations being drafted which will flesh out the legislative skelton outlined in China's new food law draft.The revised draft has been expanded from 104 articles to 159 articles with the purpose of building the most stringent legislative and regulatory system ever. Beyond some of the more obvious changes like mandatory use of Chinese labels for imported foods **(Article 92)** and clauses regarding infant formula manufacture **(Article 69)** I have tried to pick some of the more interesting pending changes.

Change 1: Health Food Filing (Article 64-68)

- **Old law:** Health Foods imported for the first time should be registered with CFDA
- **New Law:** Once all the ingredients are already regulated under Chinese national Standards products will only require filing and no longer require registration. In addition in the past it was necessary to provide documentation proving that the product had a history of at least one year safe market circulation in the country of origin. Under the new law it will be sufficient to provide documentation proving that the sale of the product is sanctioned by the competent food authority in the country of origin
- **Industry Impact:** Market access requirements for non-novel health foods will be greatly reduced. Using Chinese national standards such as GB14880 as a reference it will be possible to develop new supplements that will be facilitated with greatly expedited market access. It is also highly likely the government will publish a positive list of health food ingredients.

Change 2: Total Supply Chain Management (Importer emphasis Articles 86-97)

- **Old law:**The only major regulatory barrier for imported foods was CIQ inspection at port.
- **New law:** There will be regulatory supervision throughout all stages of the supply chain. It is also likely that traceability systems (Article 45) currently being piloted for domestically produced foods will be expanded to included imported foods
- **Industry impact:** Post market supervision and enforcement is highly likely to increase and in line with this the regulatory obligations for imported foodstuffs will increase accordingly.

Change 3: New Food Material Safety Assessment Dossier Filing

- **Old Law:** All imported foodstuffs must conform to Chinese national standards. Foods that are not regulated under Chinese national standards and have no history of consumption in China require new food material registration. Under the old law only domestic agents could submit this material
- **New Law:** Foreign importers and manufacturers will now be able to file safety assessment dossiers with NHFPC for approval.
- **Impact for Industry:** Facilitates market access, Especially for new food material health foods.

Change 4: Domestic Infant Formula Manufacturer Credit Rating System (Article 111)

- **Old law:** No Precedent
- **New law**: A corporate credit record system is to be implemented over domestic infant formula manufacturers whereby the CFDA will record quality and safety history assessed under specific criteria and accordingly assign a manufacturer rating which will be the basis for future regulatory supervision. The recording system will include information such as, basic corporate information, production license information, regular inspection information, sampling inspection information, risk monitoring information, Illegal activity information, product recall information, food safety accident information, regulators reported information Consumer complaints information Social Supervision Information Media coverage information.
- **Impact for Industry:** China's Domestic Infant formula industry will be given a major tool to help boost consumer confidence and faith in the quality of domestically produced infant formula.

Change 5: Food Recall System (Article 75,94,98)

- **Old Law:** No practical precedent
- **New Law:** A comprehensive recall system controlling all relevant parts of the food supply chain will be implemented. Will be broadly divided into a general recall system and an emergency rapid response recall system. The system will offer a platform to record relevant information and clearly outline the requirements for recall, halting or ceasing production of foods, traceability etc.
- **Impact for Industry:** The new recall system will govern all aspects of China's food industry.

For more information visit - https://food.chemlinked.com/

**For a copy of the translated draft food law please do not hesitate to contact myself or any of the staff at Chemlinked food portal. We would be happy to walk you through any supply chain obligations you may have as an importer and outline the steps necessary to comply with China's laws and regulations.*

The question is not just 'Where did that nut go?' But also, 'Why was it there in the first place?'

The article below appeared a few years ago in Food Safety Magazine. It was written by Doug Peariso and, we believe, bears reprinting. Mainly, because the message he delivers is as apt today as it was then.

HACCP International's certification scheme is designed with avoidance of such recalls in mind. The risk that that nut presented should have been identified and eliminated in the design stage or precluded the machine from installation in the plant until the risk was eliminated. Food handling and processing businesses need to be alert to any form of potential contamination. These risks don't just come from food ingredients, they come from equipment, materials used in the process and contractors delivering services such as cleaning and pest control. Poor quality cleaning materials and consumables can prevent hazards as significant as any ingredient and a contaminated piece of equipment can present an even greater risk. Metal shavings, nuts and bolts, poorly manufactured cleaning items are all examples. Gloves, designed to increase food safety can actually present a risk equal to those they are designed to prevent if they are made from inappropriate materials. Towel dispensers that cannot be cleaned, brushes with poorly contained bristle are all examples of products we see too frequently in our evaluation process.

Our advice is to treat every item that enters production and handling facilities in the same way in terms of due diligence. Don't assume, because it is not an ingredient, that it does not present a risk. Make sure your system doesn't just address ingredients, glass and metal. Check your consumables, pest control chemicals, cleaning materials, flooring, drainage, walling, benches, uniforms and dispense systems. Any one of those could contaminate or be a vector for contamination. Make sure there is a system in place to ensure everything that goes into the facility is subjected to a suitable 'due diligence' process. Many non-food products carry food safety certification, be it ours or from another certifier. Whichever it may be – verify it. If they don't carry certification, subject it to your own rigorous process.

Ensure someone with experience and expertise can analyse the risks and approve the product. Don't forget to keep a record. An auditor may well want to see it. If your contractors' personnel do not have suitable food safety systems and materials, put them through a programme and put their materials through a check system too. You can't subcontract the responsibility.

Treat every single item as a potential risk and, as the HACCP International tag line says - eliminate the hazard - reduce the risk.

A Year in Foreign Material Contamination

By Doug Peariso

A summary of the publicly available enforcement reports and recall actions published for products marketed in the US through the end of the third quarter 2007 is presented for review in Table 1. Glass fragments, hard plastic and metal (wire/shavings) were the culprits cited for recallable infractions. Typically, foreign material (FM) contamination represents a significant portion of internal failure costs. A proactive systematic strategy should be adopted to eliminate the potential for such incidents instead of addressing symptoms as they occur.

Unfortunately, many organizations fail to make a commitment to such practice and mass obsolescence and/or consumer injury may result. Over the course of numerous investigations performed throughout 2007 by the author common themes were present among organizations struggling with the control of FM. The most notable were:

1. A lack of time/resources to devote to improving the situation until a severe incident (defined by consumer action or large financial loss) had occurred.

US FDA Enforcement Report Recall Summaries, 10 month period

Product Recalled	Foreign Material of Concern	Quantity Involved
Spearmint Flavouring	Metal Wire Fragments	10750 lbs
Nutritional Bar	Hard Plastic Fragments	28080 bars
Trail Mix	Glass Fragments	21720 packages
Grain Organic Amaranth	Corroded Ferrous Mat.	1025 lbs
Kalamata Olive Tapenade	Glass Fragments	32551 jars
Peanut Butter Snack Bars	Metal Fragments	2661 cases
Bulk Peanut Butter	Metal Fragments	322000 lbs
Manufactured Ice	Hard Plastic Fragments	259840 bags
Marinated Herring	Glass Fragments	27330 jars
Bread	Metal Fragments	286478 loaves
Fresh Ground Beef	Metal Fragments	11250 lbs

Table 1.

2. Failures not found until it was too late to do anything to isolate the suspect product, many times requiring extensive reinspection and culling of entire distribution centers at significant incremental cost.
3. When information was collected that identified the scope and severity of the situation, it was either never summarized or not presented to the appropriate level of management for assessment.
4. There was a considerable amount of consumer correspondence on file to indicate an escalation in prevalence.

The two most common systemic causes for the FM contamination events were: 1) improper or absent maintenance of equipment and facilities, and 2) lack of supplier management systems for controlled sourcing of ingredients and packaging components. Other notable roots on the Pareto chart of failure modes dealt with the absence of a valid Hazard Analysis and Critical Control Points (HACCP) program, flawed hazard analyses, lack of qualified supervision and management, authorization given by management to "temporary" bypass detection/separation equipment.

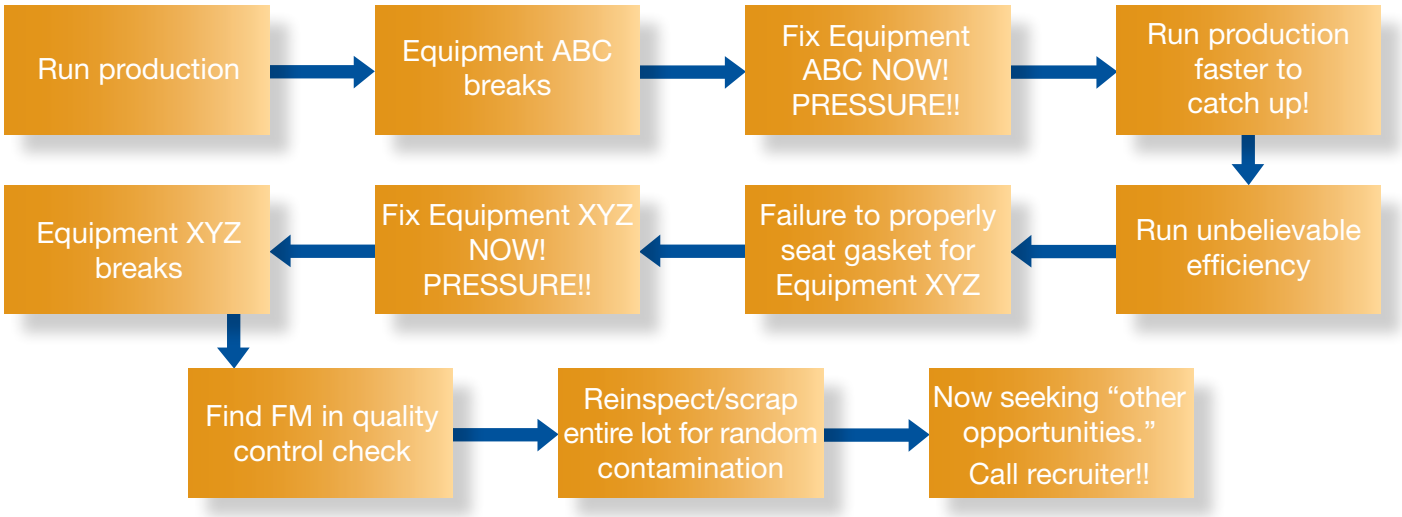


Figure 1. A typical run to failure (RTF) scenario and its consequences

Therefore, a detailed discussion of maintenance systems requirements to prevent FM incidents is warranted. This is because when maintenance systems are properly addressed it will prove an effective first step to permanently reduce FM incidents. If your group believes that the acronym "PM" within your maintenance programs stands for "post mortem" you may have a problem. One of the most dire situations in which an organization can find itself is when it ignores maintenance systems and has developed an addiction to running equipment to failure. A typical run to failure (RTF) scenario and its consequences is presented in Figure 1. Now, there are a handful of occasions when RTF practices do make business sense. For most situations, RTF maintenance systems are not correlative with the predictable manufacture of safe products or enhanced profitability. Even if you work in an organization that embraces Total Productive Maintenance, you must continuously provide food safety insight, education and risk reduction tools to the organization to effectively mitigate hazards.

Evolving From Run to Failure

Any addiction to RTF must be broken! To be an effective change and/or rehabilitation agent you will need data to justify this cultural shift. Typically, polling accounting and operations functions reveals the cost of poor maintenance practices. The dollar value of unsaleable products manufactured, the amount of time that assets are unavailable for production due to breakdown or other emergency maintenance activities and the facility's Maintenance Repair & Overhaul (MRO) budget represent a good justification for resources. The scrap rates for FM alone can represent between a four to seven figure annual cost savings opportunity for an organization. Additionally, increasing the availability (i.e. not in a breakdown condition and available for production) of equipment by as little as 10% may mean the difference between having enough capacity on hand versus having to invest in contract manufacturers or fixed assets.

Next to sanitation, the maintenance department is the most powerful potential ally that can be enlisted to address food safety hazards. Maintenance is often viewed as a resource-intensive black hole that delivers suboptimal results and serves as a vector of contamination. Obviously, when poor practices are followed, such as poor lubrication, loss of fasteners, use of insanitary tools, scrap left in equipment etc., the latter can be true. From an hourly employee standpoint the education and skill level possessed in maintenance departments exceeds those of all other functions.

Furthermore, maintenance personnel are in a position to see the facility and its equipment in their most telling state. From this unique vantage point they, and well trained operators, can identify and correct unusual wear patterns, chronically loose or missing fasteners, over/under lubrication and dynamic tolerance issues that cause the generation of wear contaminants like plastic or metal shavings from being generated. Chronically reactive organizations possess no failure reporting and corrective action systems (FRACAS) to capture such events. Standardized corrective and preventative actions are never incorporated and failures recur. Even simple practices like use of thread locking compounds, no zirc fittings over product streams or other standard maintenance practices to prevent contamination are not systematized.

Use Maintenance Resources to Prevent FM Contamination

Maintenance personnel should be given due respect for their knowledge, finite skills and ability to work under extreme pressure in gruelling conditions. Unless properly educated, however, they will not develop the ability to recognize potential food safety hazards. To develop these individual's skills in food safety hazard identification in the field, a documented FM awareness training should be conducted in an environment free of constant distraction. A good number of exhibits should be brought in to display the types of FM found within intermediate and finished products. Actual consumer correspondence and the dollar value associated with other failures certainly makes for a wonderful eye-opener. At this juncture it is best to enlist their unique thinking and knowledge without having the conversation drift into a venting exercise about poor equipment or time constraints. Simple questions to ask when looking at these

CONTINUED ON PAGE 18

exhibits include:

1. "How could this have been prevented?"
2. "When was the last time this part was replaced?"
3. "Was there an incompatibility that led to this failure (incorrect part, different environment, etc.)?"
4. "Has this failure occurred elsewhere?"
5. "Could this failure occur elsewhere?"
6. "Has this type of failure already been addressed elsewhere within the facility, division or corporation? How?"
7. "Could we have detected this problem before it failed? If so how?"

Inevitably, when captured, this healthy dialogue can become a rough draft for a PM procedure, inspection or engineering fix. Heated opinions such as, "That's why we have metal detectors/X-ray/separation equipment! Aren't they working?!" usually is brought forward at this point. The point that overburdening a contamination prevention device is an extremely risky practice must be made. Hence, the awareness training should also include a discussion in plain English about how detection and separation equipment work, what hazards justify their existence, what their limits of detection/separation are and how various external influences can defeat them. Most maintenance personnel are surprised to learn that product signals and contaminant position (in the case of wire and swarf) are important factors in the efficacy of a metal detection loop. Many are also surprised when they learn the type of conveyor material used to convey product through the detectors is important. The lack of engineering standardization and management usually becomes evident.

The limitations of separation equipment should also be presented. Why combine a scalping deck and a sifter? Design considerations as they relate to the known hazards are core concepts for this presentation. The placement of and care for magnetic separators should be emphasized. Presenting the concept that field strength of magnetic separators versus potential contaminants is exponentially lossed/gained with proximity to the potential contaminant provides the maintenance team an understanding of why it is necessary to have them positioned close to, or within, the product stream. Likewise, a discussion describing how uncontrolled heat from welding near a magnetic separator might cause irreversible losses that may go unnoticed for months is necessary.

Developing PM Procedures

With the proliferation of computerized maintenance management systems (CMMS) PMs can be developed and automatically issued to personnel on a set basis. The CMMS can also account for spare parts used, the time spent performing the PM, and even adjust the schedule window from a time-based operation to a condition based operation (i.e., number of actual cycles on equipment versus days between equipment PM). Realize that CMMS are only as good as the information that populates them. A fundamentally sound PM procedure paired with adequate on the job training of maintenance personnel are still necessary prerequisites. Well-written PMs can also be transitioned to routine inspection and cleaning activities for operators to perform as necessary within an autonomous mainte-nance program.

For a HACCP auditor, there is no feeling more unnerving then seeing maintenance programs cited as functional prerequisite programs (justifying the absence of CCPs) only to observe multiple gaps and non-conformances. Likewise, sifting through a file full of "completed" PMs containing vague statements like "check metal detector to ensure it is functioning," or "inspect grinder for wear" doesn't provide a warm, fuzzy feeling that everything is copacetic. A more useful PM is presented as Figure 2.

Preventative Maintenance Procedure PM0812 Date Issued: Today
Issued To: J Fixit

PM Priority Status	1- Product Safety
Asset #	1659-001
Asset Description	Brand ABC Metal Detector, Conveying System and Rejection Components
Physical Location	Anywhere USA. Building 64. Line 5
Necessary Personal Protective Equipment	1. Bump Cap 2. Safety Glasses with Side Shields
Relevant JHAs	45 Electrical Safety 46 Pneumatic Systems
LOTO Required for PM	YES/NO
Necessary Equipment/ Supplies	1. Dielectric Grease 2. Infrared Pyrometer 3. Fluke Digital Multi-meter 4. Contact Tachometer 5. Various Metal Sphere containing test cards 6. Orange Dummy Product (kept with operator) 7. Ethyl Alcohol cleaning solution 8. Paper towels

Procedure Steps and Confirmation Testing.....Time initiated.....Initials
(Note: This PM is to be performed when production is idle, or during a changeover)

Look at conveyor VFD readout and record reading here.....In Spec?	Yes/No.....
Use contact tachometer and record belt speed here.....In Spec?	Yes/No.....
Are there missing links on the conveyor?	Yes/No.....
If no, are there any repairs or visible embedded black specs?	Yes/No.....
if yes, do these sections pass through the detector without causing interference?	Yes/No.....
Wipe photo eyes 1, 3 and 5 with alcohol. Indicator light present when eye blocked?	Yes/No.....

(Form continues)

Figure 2. Example of a useful preventative maintenance (PM) procedural form.

Auditing and Documenting Maintenance Procedures

Critical food safety PMs should be audited to verify the function of the maintenance prerequisite program. Clearly, top-down support is required to implement this critical phase of the continuous improvement cycle. An auditor from an external function (operations, sanitation, quality assurance) should randomly select PMs that were previously scheduled in order to track compliance with the established frequency. A CMMS usually expedites the selection process. The documentation should be evaluated against a standard to ensure it was completed properly, reviewed and filed in the correct location.

The final step of the auditing process represents the ultimate in due diligence. This step is to go out to the factory floor and perform a joint audit of a recent PM. Obviously finding misfunctioning equipment, no or over lubrication, loose fasteners and tools/personal effects left in a food production area are indications that the situation needs to be reevaluated. Tracking the rate of nonconforming PMs performed, making a list of corrective actions taken and owners tasked with addressing the issues all will surely put your maintenance systems on the continuous improvement path and help to drive a measurable reduction in your FM contamination incidents.

Doug Peariso is President of Contemporary Process Solutions LLC, a Windsor, CO-based independent consulting firm offering expertise to food companies in delivering sustainable product safety and business improvements. Previously Peariso held roles in both quality assurance and manufacturing operations with companies such as Campbell Soup, Clorox and Gerber Products. During his tenure at Gerber Products Peariso oversaw several key areas of their business. As the Senior Quality Assurance Manager he was responsible for the oversight of the quality systems and personnel within Gerber's North American food manufacturing facilities (comprising more than 80% of the domestic baby food category). Peariso is an ASQ Certified Six Sigma Black Belt, an ASQ Certified Hazard Analysis and Critical Control Point (HACCP) Auditor, and the author of the book, Preventing Foreign Material Contamination of Foods (Blackwell Publishing). He is a member of the Food Safety Magazine Editorial Advisory Board and can be reached at ***doug.peariso@cps4you.com.***

PRODUCT NEWS

USA Product Certification News

SCA Hygiene meets tough design criteria for hand towel dispensers to give a total food-safe hand drying solution

HACCP International's USA office has been working with SCA Hygiene in recent months as SCA Hygiene's Tork hand drying products for the North American market were being evaluated for food safety certification.

While the paper towelling itself is the main item here, the evaluation process also includes an assessment of the dispensers that are used with these products. Dispensers for hand towelling products have the ability to impact upon food safety issues, especially if they are shaped such that they are difficult to clean. However SCA Hygiene's Tork Washstation Dispenser has been designed using the best principles of sanitary design and has been found to meet all HACCP International's assessment criteria.

Says Karen Constable of HACCP International, "we often see perfectly acceptable hand towels being housed in dispensers which cannot be cleaned or do not properly protect the towels from contamination. It is great to see 'no touch' dispensers that are easily cleanable and suitable for the food industry available to the US market."

HACCP International has certified Tork Paper Wiper (29 13 80) and Tork Washstation Dispenser W6.

For more information, visit www.sca.com/us

SCA Care of Life

Electrolux's Laundry Equipment achieves certification in The UK

Speciality hygiene range designed for the food industry work wear.

Starting out with a vacuum cleaner 90 years ago, the Electrolux brand today is a global leader in home appliances and appliances for professional use. By 1925, Electrolux had added refrigerators to its product lines and other appliances soon followed including washing machines in 1951, Now Electrolux sells more than 50 million products to customers in more than 150 markets every year, with laundry products representing 19% of group sales.

With the strategic aim of growth within the professional laundry sector, both for commercial laundry and for in-house laundry, the organisation is acutely aware of the health risks of cross contamination and suitable controls, with an approach that supports, in particular the requirements, within the healthcare industry for RABC (Risk Analysis Biocontamination Control).

The food, hospitality and catering industry has, of course, implemented its very own RABC type system with HACCP and Electrolux Professional were of course keen to learn how their systems can support this global food safety management system. Talking to HACCP International and the submission of a range of laundry machines for HACCP International Certification was of course the ideal marriage. The machines were assessed under the HACCP International scheme "Food safe equipment, materials and services" which assessed hygienic design, accessibility and ease of cleaning, thermal sanitation standards, process verification, instructions and training and the potential for consequence of error in application or use. A large range of washers, barrier washers, dryers and ironers, very typically used in the hospitality or food processor setting, achieved certification.

Electrolux told us "with HACCP International Certification supporting food safety control, this commendation is great news for both Food Service and Laundry. In the food processing industry, high levels of hygiene and microbiological control is the number one priority. What better way to provide a customer added value and peace of mind, than by being able to provide both food service and laundry solutions that meet the highest hygiene standards that HACCP International Certification demands?

For more information, visit www.electrolux.co.uk/professional

Electrolux

HOTLINKS

Get your finger on the pulse of food poisoning outbreaks when they occur !

http://www.foodpoisoningnews.com/

Also included is some good background information on the causes and symptoms of the dreaded food borne illnesses. Plus, should you experience such illness, litigation advice and representation. Everything the consumer needs…

Food Safety risk management

http://www.who.int/foodsafety/chem/en/

WHO and the Food and Agriculture Organization of the United Nations (FAO) are in the forefront of the development of risk-based approaches for the management of public health hazards in food. Check out the areas of work tab for some excellent insight into food safety risk management.

Food that is strange

http://www.weird-food.com/

When the 'five food groups' include Mammal, Reptile, Amphibian, Bug and Minerals, you know you are in for some interesting browsing…..and possibly a recipe or two for your next dinner party…..

A perfect blend of regulatory analysis and practical compliance

https://food.chemlinked.com/

Chemlinked Food Portal was created by REACH24H to meet the massive and largely unanswered demand for quality and dependable regulatory information and compliance services that is needed by companies exporting foodstuffs to China.

FACTERIA LISTERIA

The last to arrive at the Pathogen Party

Listeria is a bacteria who has only been recognised relatively recently (1980s) as a significant food borne pathogen. The listeria genus contains 10 species of which only one, Listeria monocytogenes, causes illness in humans through food infection.

The illness caused by L. monocytogenes infection is called listeriosis and severe cases result in mortality rates of about 25%. Mild cases are also of concern to pregnant women who can suffer miscarriage as a result. The threat of listeriosis is most significant to the elderly, the very young and immune compromised individuals. Data indicates about 2.5 cases per year per million population of listeria occurs in western counties. The US CDC estimates approximately 1600 cases and 260 deaths will occur from the illness on an annual basis in The USA.

The bacteria are widely spread through nature and can be easily isolated from soil. Foods typically infected include soft cheeses, unpasteurised dairy products, deli meats, fruit salads and juices made from vegetables or unwashed fruits. Listeria is easily killed by heat so that infection is typically associated with cold ready to eat foods.

A large infective dose of the L monocytogenes is required to cause listeriosis and not all the population is susceptible to the illness. For this reason, Food Standards Australia New Zealand is considering increasing the microbiological limit (current limit is zero) to 100 cfu/gram in foods that do not support multiplication of the bacteria.

In the food plant, listeria spp can grow in cool, moist areas. Areas that may never dry out (like drains or under floor mounted equipment) often harbour large number of the bacteria which can be transferred to other areas of the plant or food by contact or even aerosols. A listeria infection in a plant can be very hard to eliminate and may result in regulatory action and loss of sales whilst the source of the infection is identified and eliminated.

Of significance to the food industry, is the bacteria's ability to grow at refrigerated temperatures as low as 4 deg C. None of the other food borne pathogens share this characteristic and this has obvious implications when relying on refrigeration alone to extend shelf life of a food.

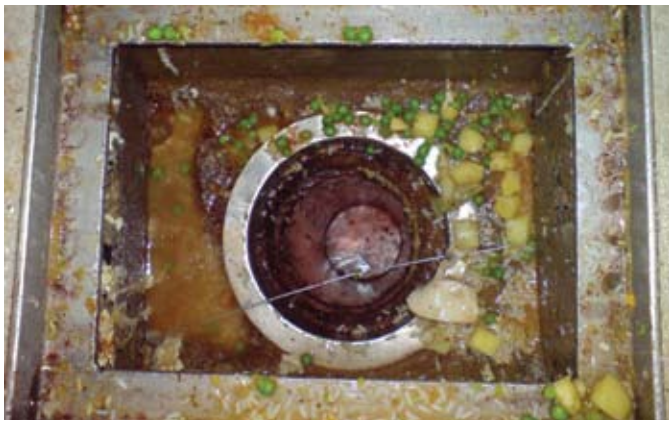
How to Avoid Drain Pain

Specifying food-safe drainage solutions

By Adam Hopkins, BLUCHER Australia

A recent increase in poor drain selection has highlighted the importance of specifying the correct drain for the application, especially in the hygiene conscious food processing industry.

In the past twelve months, we've seen an increase in requests for assistance with drainage from food processors as a result of food safety audits, particularly with concerns about the performance of floor drains and inability for cleaners to quickly clean to a required standard. With some recent projects requiring upwards of ninety drains for their processing area alone, a small problem can become substantial if something as seemingly small as a floor drain begins affecting operations as a repeating and persistent issue.



A high maintenance floor drain – Substantial product build-up, sharp corners and difficult to clean surfaces increase the risk for major bacteria issues.

Drainage is often viewed from above as a small hole where production waste is hosed away, however as the wash-down water helps clear the processing area the real effects occur below. Besides the main role of collecting large amounts of water, floor drains are often points for collecting washed solids and preventing contaminated sewer gases from entering hygienic areas. For instance in Australia, recent regulations require primary and secondary screening before discharge to sewer, creating a situation where regular clearing of filter baskets and waste build-up is required to prevent a blockage.

Often, when drain problems are investigated, the problem is found to arise from bulk solids having entered and blocked the drainage pipework. Blockages often arise during processing and highlight the importance of regular cleaning, education and maintenance practices for food processors. Stopping production to clear pipes because the floor is pooling with backed up water is not desired by anyone, least of all the maintenance team; this gives rise to a costly time and financial burden.

It raises a substantial point to specifiers and installers and their liability for products installed without the necessary approvals such as WaterMark. In many cases, the drainage installed into concrete floors is very difficult to rectify or replace without substantial production downtime, equipment relocation or construction work. Maintenance staff are often omitted from the drainage selection process and left to resolve problems when drains are installed by others without adequate thought to the requirements of day to day operations.

We prefer to work with consultants, owners and maintenance managers to prevent these problems before they occur; at the design stage. Selecting a high performance floor drain depends on a few key factors including the expected amount of water, the amount of solids, load rating required, for example forklift traffic, cleanliness, material and temperature.

Primary considerations for hygienic design are minimising or eliminating corners and horizontal surfaces that can trap deposits of solids and harbour bacteria in these hard to clean parts of a drain bowl. Laps, crevices and corners are all undesirable attributes when it comes to drain bowl cleanliness. Managing bacteria is much easier when surfaces are smooth, easy to clean, self-draining and impervious, such as stainless steel. Outside the bowl it is important to fill voids such as under the drain top or folded edges with a permanent bacteria resistant material. The material also needs to be suitable for harsh cleaning practices, with stainless steel resistant to many cleaning chemicals and suitable for high temperature water washdown.

Self draining, continuous smooth surface and easy clean, replaceable components of a Blucher Industrial Drain.

Ideally the filter basket should be a snug fit within the drain bowl, directing all solids into it and preventing overspill into the drain below when it is removed for emptying. Secondary strainers function as a backup and are designed to catch overspill, but can be less accessible and harder to clear, especially during production. We've supplied oversized baskets to reduce emptying frequency

for high solids content waste and for production waste with unusual solid shapes and sizes.

Another successful design solution that we have employed is a removable water trap. These are fitted within the drain bowl and serve to prevent sewer odours but can be removed for maintenance and allow unimpeded access to the pipework beyond. This feature is preferred to installing additional inspection points when each drain can act as both drain, clear-out and can be used without a traditional P-Trap.

Using removable items such as filter baskets and water traps allows for replacement should damage occur without affecting the fixed drain bowl and this extends the service life of the drain considerably. The grate of the drain should also be replaceable and in our experience can save expense when production area layouts are changed, such as when pedestrian areas become heavy forklift traffic areas. Replaceable grates make these changes to layout easier and quicker.

BLÜCHER's practical experience of more than 45 years in the industry has led to these design features being incorporated into best practice solutions for commercial and industrial drainage and becoming standard in an increasing number of large project specifications and plant upgrades.

What lies beneath. Floor drains can all look the same until you look inside for the clean or grim truth.

Whether it is a single drain bowl or a solution incorporating industrial floor drains, channel linear drainage, stainless steel drainage pipework and custom kettle discharge pit, we've been able to supply products that are installed permanently, reliable and offer a long service life as part of the building, and we are proud to count leading food processors around the world among our reference objects.

Understanding the implications of poor drainage selection and the ongoing benefits of good choices for building design, are often only discovered when they're not performing properly but are crucial for an efficient and hygienic food production facility.

For more information, contact
BLÜCHER
Tel. +45 99920800
export@blucher.com
www.blucher.com

FACT

This product is food safe

HACCP INTERNATIONAL FOOD SAFETY PROGRAMME CERTIFICATION

The HACCP International certification and endorsement process supports organisations achieving food safety excellence in non-food products, material, consumables and services that are commonly used in the food industry. HACCP International's Certification is particularly aimed at those organisations that are required to supply 'food safe', 'compliant' or 'approved' products and services to their food safety conscious customers.

Such products or services are usually those that have incidental food contact or might significantly impact food safety in their application. Food safety schemes, particularly the leading ones which are GFSI endorsed, require food businesses to subject many such products to an auditable 'due diligence' process and the HACCP International certification is designed to meet this. This independent assessment and verification of fitness for purpose offers assurance to the buyer or user that food safety protocols and processes will not be compromised in using such a product or service correctly, that such a product is 'fit for purpose' and that it makes a contribution to food safety in its application.

Certified products have been rigorously evaluated by HACCP International's food technologists and, in their expert estimation, are manufactured and designed to meet all the appropriate food safety standards. In performing the assessment, they look for 'world's best' in terms of food safety features and characteristics. The food technologists undertaking these reviews, as well as being highly qualified, also have extensive industry and manufacturing experience. Only products that are assessed as meeting the criteria can carry the mark. Quite often, organisations are required to make modifications to the product, design, delivery, literature or recommendations in order to comply. This process is therefore particularly useful for products that are designed for many industrial applications.

There are 10 key components reviewed in this process and certified products need to demonstrate their conformance in all the relevant facets. The ten key components are:

1. *Materials and specifications*
2. *Toxicity*
3. *Contamination risks*
4. *Ease of cleaning*
5. *Operating instructions*
6. *Consequences of error*
7. *Batch and process controls*
8. *Claims*
9. *Packaging and labelling*
10. *Contribution to food safety*

In addition to these, service providers are also assessed, through an audit process, in terms of:

- HACCP and food safety awareness
- Food Safety Training
- Documentation and reporting
- On site service delivery
- Standard Operating Procedures

HACCP International is accredited by JAS-ANZ as a conformity assessment body. JAS-ANZ is a member of The International Accreditation Forum (IAF). HACCP International operates an accredited product certification scheme, titled Food Safety Assurance, as well as other product certification schemes.

The companies listed on page 25 carry a range of excellent food safe products or services certified and endorsed by HACCP International. For more details, please visit www.haccp-international.com or email info@haccp-international.com. The contact numbers for our regional offices can be found on page 3 of this bulletin.

www.haccp-international.com

CATERING AND FOOD SERVICE EQUIPMENT	CHEF INOX (I) HOSHIZAKI (I) MACKIES ASIA PACIFIC (I) S.P.M. DRINK SYSTEMS S.r.l. (I)
CLEANING EQUIPMENT	CARLISLE CLEANING EQUIPMENT (I) CHAMPION MACHINERY HK LTD (I) ESWOOD GLOBAL CHAMPION (Shanghai) LTD (I) OATES CLEAN SABCO
CLEANING CHEMICALS KITCHEN MATERIALS AND SANITATION PRODUCTS	3M (I) BAXX (I) BIOZONE SCIENTIFIC (I) BUNZL CHAMPION CHEMICALS LTD CLOROX (I) CONCEPT LABORATORIES DEB GROUP (I) EDCO (EDGAR EDMONDSON) KIMBERLY-CLARK PROFESSIONAL (I) LALAN SAFETY CARE OATES CLEANING PREMIUM PRODUCT SOLUTIONS (I) SCA HYGIENE/TORK
CLEANING & MAINTENANCE SERVICES TO THE FOOD INDUSTRY	ACE FILTERS INTERNATIONAL AERIS HYGIENE SERVICES (I) BORG CLEANING CHALLENGER CLEANING SERVICES INITIAL HYGIENE INTEGRATED PREMISES SERVICES ISS HYGIENE SERVICES LOTUS FILTERS
CLOTHING, DISPOSABLE GLOVES AND PROTECTIVE WEAR	KIMBERLY-CLARK PROFESSIONAL (I) LALAN GLOVES SAFETYCARE LIVINGSTONE INTERNATIONAL PARAMOUNT SAFETY PRODUCTS PRO PAC PACKAGING RCR INTERNATIONAL STEELDRILL WORKWEAR & GLOVES
FACILITY FIXTURES, FLOORING AND FIT OUT	ALTRO SAFETY FLOORING & WALLING (I) ASSA ABLOY ENTRANCE SYSTEMS (I) BLUCHER (I) BLUE SCOPE STEEL (I) CARONA GROUP DEFLECTA CRETE DYSON AIRBLADE (I) ELECTROLUX GENERAL MAT COMPANY HALTON (I) HIDRIA GIF (I) MANTOVA NUPLEX
FACILITY FIXTURES, FLOORING AND FIT OUT CONTINUED	PHILIPS LIGHTING ROXSET SILIKAL (I) THORN LIGHTING (I) UCRETE-BASF (I) UNIVERSAL FOOD SERVICE DESIGN
LABELS - FOOD GRADE	LABEL POWER OMEGA LABELS W W WEDDERBURN
MAGNETS	MAGNATTACK GLOBAL (I)
MANUFACTURING EQUIPMENT COMPONENTS & CONSUMABLES	AURORA PROCESS SOLUTIONS BIOCOTE (I) BSC MOTION TECHNOLOGY ENMIN (I) FCR MOTION ITW POLYMERS & FLUIDS LANOTEC (I) SICK SMC PNEUMATICS (I) WURTH
PEST CONTROL EQUIPMENT AND MATERIALS	BAITSAFE(I) BASF (I) BAYER (I) BELL LABORATORIES INC (I) ECOLAB PEST FREE AUSTRALIA (I) STARKEY PRODUCTS (I) SYNGENTA WEEPA PRODUCTS
PEST CONTROL SERVICES	AMALGAMATED PEST CONTROL CPM PEST & HYGIENE SERVICES ECOLAB FLICK ANTICIMEX ISS ORIGIN EXTERMINATORS RENTOKIL SCIENTIFIC PEST MANAGEMENT STAR PEST CONTROL
REFRIGERATION, GOVERNORS, EQUIPMENT AND DATA SYSTEMS	AERIS HYGIENE SERVICES (I) CAREL (I) DIGINOL E-CUBE SOLUTIONS MISA(I)
STORAGE EQUIPMENT & PACKING MATERIAL	NETPAK RCR INTERNATIONAL SCHUETZ AUSTRALIA
THERMOMETERS, PH METERS AND DATA LOGGERS	3M TESTO (I)

(I) indicates that the company offers products or services with global compliance or registration. Others have a national registration in one or more countries

Richard Mallett
European Director of
HACCP International

How do you know

whether equipment, materials and services are suitable for use in food processing and handling?

Only one mark truly confirms a non-ingredient product is food-safe. If it's not food-safe in every respect, it can't carry this mark – simple.

The HACCP International certification mark is aligned with the due diligence requirements of the world's leading food safety standards and quality systems. Ten key criteria are examined to give you that full assurance. Certified products need to satisfy ALL criteria – not just individual components. It's either completely fit for its purpose or it's not!

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No ifs, no buts, it is or it isn't!

That's why products from these well respected manufacturers and many more carry the mark.

3M · altro · BASF The Chemical Company · CLOROX COMMERCIAL Brands you can trust · deb · dyson airblade · misa eptarefrigeration · We measure it. testo

HACCP INTERNATIONAL
eliminate the hazard - reduce the risk

www.haccp-international.com