Magnetic Separator Audits: At What Expense?

The Food Safety Modernization Act (FSMA) brought food manufacturers a dizzying array of Hazard Analysis and Critical Control Points (HACCP) implementation, training, auditing, documentation, and consulting services. But, a close look at the FDA's HACCP principles begs the question: What are you paying for, and is the expense really necessary?

Perhaps you're a producer of grain, sugar, flour, or dry bulk goods, and you're maintaining a HACCP program on a voluntary basis. Or, perhaps you're a juice, seafood, meat, or poultry producer, and you're subject to mandatory implementation of HACCP principles. In either case, ongoing documentation and reporting are central to the success of your food safety initiative. In fact, two out of the seven FDA-adopted HACCP principles (*Establish Verification Procedures* [6] and *Establish Record-Keeping and Documentation Procedures* [7]) speak directly to the audit-report-and-verify effort.[1]

The goal of HACCP registration is to assess the effectiveness of your food safety management system in the application of HACCP principles, and more specifically, to focus on the Critical Control Point (CCP) infrastructure (i.e. magnetic, metal detection, and x-ray solutions) on which food safety relies. Because this CCP infrastructure is often mechanical and subject to degradation or failure for a variety of reasons, the FDA requires routine assessment and ongoing documentation, record keeping, and auditing as proof of compliance with HACCP principles.

In short, regardless of how solid your HACCP plan, in the eyes of standard bearers like the FDA, failure to keep records and routinely document the plan's efficacy via audit will invalidate your effort. In this paper, we'll bust a common myth about HACCP audit qualifications, and we'll outline some best practices for—and benefits of—validating and reporting on the efficacy of your magnetic CCP equipment.

All Critical Control Point Audits Are Not Created Equal

First, let's dig a bit deeper into just how important record keeping and documentation principles are to the implementation of HACCP. Record keeping procedures require you to maintain records documenting both the overall program and daily CCP monitoring and corrective action. For

[1] *HACCP Principles & Application Guidelines,* August 1997, http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm

the purposes of this paper, we'll focus on overall program documentation requirements, which include (but aren't limited to):

- Written validation of your HACCP plan to support its rationale
- Documentation of established CCPs
- Training procedures and frequencies
- Critical limits and tolerances at each CCP
- Monitoring procedures and frequencies
- Corrective action procedures
- Verification procedures and frequencies
- Flow diagrams

These records must be readily available for, and subject to, USDA inspection within 24 hours of request. They're also extremely valuable as an internal troubleshooting and issue remediation resource, and in some cases, they're required by insurance agencies.

Of all the important records identified in the HACCP principles, CCP audits are among the most important documents a food manufacturer can maintain in support of HACCP standards, whether voluntary or mandated. However, the U.S. food manufacturing industry has been rife with confusion on this subject since long before the FDA's National Advisory Committee on Microbiological Criteria for Foods overhauled HACCP principles in 1997. A veritable cottage industry of so-called "certified" HACCP training, auditing, and consulting agencies began cropping up as far back as the 1970's, on the heels of the initial adoption of HACCP principles by Federal agencies including NASA and the FDA.

In fact, while there are many *qualified* third-party HACCP training, auditing, and consulting organizations, there is no stated *certification* program, per se. The current *HACCP Principles & Application Guidelines* clearly sates*:*

"Verification activities are carried out by individuals within a company, third party experts, and regulatory agencies. It is important that individuals doing verification have appropriate technical expertise to perform this function."[2]

Clearly, self-verification is an option, and the standard doesn't dictate that paying a premium for "certified" training, consulting, and auditing is necessary. With that being said, for many food manufacturers, the assistance of a third-party HACCP expert often results in stronger control processes, more thorough audit and reporting policies, and labor resource efficiencies. However, it's important to know what you're paying for when outsourcing these services and whether you *should* be paying anything at all. Some food safety CCP equipment vendors—MPI among them—offer auditing services free of charge*, and those services are as thorough and as beneficial as those costing hundreds or even thousands of dollars.

Features And Benefits: What To Look For In A Magnetic Separator Audit

Thorough magnetic separator audits are beneficial to a food processing operator for a number of reasons. In addition to serving as written documentation of your plant's compliance with HACCP

[2] *HACCP Principles & Application Guidelines*, August 1997
http://www.fda.gov/Food/GuidanceRegulation/HACCP/ucm2006801.htm

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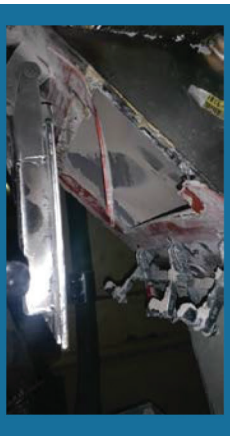


Photo documentation of each audited magnetic separator validates equipment condition and helps identify units requiring maintenance.

principles, magnetic food safety equipment audits help you:

- Proactively identify equipment anomalies before they result in failure.
- Evaluate the necessity for changes to your CCP setup as production throughput and processes change to meet market demand.
- Ensure the protection of your company and your brand from the financial and reputational damage caused by finished goods contamination.
- Identify and prioritize your magnetic food safety equipment maintenance and upgrade needs.

The degree to which these benefits are realized is corollary to the quality of your audit. Food processors should look for audit providers that guarantee a thorough cleaning and inspection of each and every magnet—which includes those located in:

- HACCP-identified CCP areas of plant operations.
- Primary bulk material receiving system areas.
- Secondary process areas.
- Finishing (final quality before packaging) areas.

In processing environments where magnets are susceptible to damage caused by heat, or performance degradation caused by material characteristics or other environmental factors, audits should be conducted more frequently; your audit provider should be prepared to recommend an audit schedule appropriate for your specific production environment.

At a minimum, audits should include a digital scale pull test of each magnet using ferrous test pieces. Where stricter documentation is necessary, NIST certified scales are recommended. The location and description of each magnetic separator should be clearly stated, and each should be photographed. Findings of the audit, including pull test results for each magnet, should be presented in a thorough and timely post-audit report. The report should include clear, prioritized recommendations based on the auditor's findings:

- A Priority: Action should be taken per recommendations in report.
- B Priority: There are deficiencies as noted in the report, but overall condition and performance of magnet is satisfactory.
- C Priority: No action needs to be taken.

In addition to a thorough written report, your audit provider should be willing to present findings to the appropriate plant management and/or quality assurance personnel within your organization.

Food processors should also look for added values performed by the auditor in conjunction with the audit process. Magnetic separator audits give both the auditor and the food processor the opportunity to address the following while the proverbial "hood is open:"

- Proper instruction on accessing and cleaning magnets.
- Guidance as to the frequency of

cleaning each magnet requires (e.g. once per day, twice per week) based on production throughput, characteristics of the material(s) handled, and other environmental factors.
- Instruction on the proper execution of pull tests, and consultation on how to achieve repeatable results.
- Best-practice advice on the proper location of each magnet for maximum ferrous collection and long-term efficacy.

Depending on the size and production volume of the facility, your magnetic separator investment could range from several thousand dollars to several *hundred* thousand dollars. Qualified magnet audits ensure the protection of that investment, and they're a critical step in the protection of your company and brand from the multi-million dollar fallout often associated with food contamination.

Increasing Regulation Warrants Ongoing CCP Audits

In addition to the HACCP principles described herein, the relatively new Food Safety Modernization Act (FSMA),[3] signed into law by President Obama in 2011, will further tighten federal oversight of the processor's food safety initiatives. In regards to CCPs and reporting, the Act specifically addresses:

- *Preventive controls.* For the first time, the FDA has a legislative mandate to require comprehensive, prevention-based controls across the food supply.
- *Inspection and Compliance.* The legislation recognizes that inspection is an important means of holding industry accountable for its responsibility to produce safe food; thus, the law specifies how often the FDA should inspect food producers. The FDA is committed to applying its inspection resources in a risk-based manner and adopting innovative inspection approaches.

NIST-certified scales should be used by your magnetic separator auditor and made available to food processors as part of a kit to conduct their own pull tests.

As regulations tighten and food processors become more vigilant in response to food safety concerns, routine magnetic separator audits only become more critical. But, all audits are not created equal, and that certainly applies to the "free" audits conducted by magnetic separator solution providers. Food processors and manufacturers are wise to thoroughly analyze the features and benefits of the audits they contract, to ensure they're getting the most value for the service.

[3] *Food Safety Modernization Act*, 2011, http://www.fda.gov/Food/GuidanceRegulation/FSMA/

About MPI

Based in Metro-Detroit Michigan, MPI designs, manufactures and services magnets, material handling and electronic inspection systems. MPI products are designed to be complete metal and foreign contamination control solutions for the food production and related industries. MPI's equipment and service programs help its customers minimize downtime and protect brand integrity through offering safe and reliable equipment.

MPI leads the industry by continuously engineering inventive products, advancing customer education through significant investments in research and development, and proactive product training. All MPI equipment is backed by its best in class service programs, customer service team, and support team. MPI interacts closely with its customers and expands its offerings to meet the changes of a dynamic and ever changing marketplace.

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