Cleaning & Restoration Service, Inc.

C & R

Consolidated Standards for Cleaning

Food Contact Packaging Manufacturing Facilities

This standard establishes criteria for evaluating the cleanliness of Food Manufacturing facilities overhead components, and for cleaning and restoring systems to specific cleanliness levels to ensure your product is safe guarded against contamination from overhead debris.

Cleaning is more than making the facility look good. Cleaning methods and scheduling take product safety into account.

STANDARDS OF PERFORMANCE

CRS Audit Inspection Cleaning Team

Assessment, Cleaning, and Restoration of Overhead areas 14' and higher within the plant **(AIB Consolidated Standards) is an industry standard that has evolved from guidelines, industry standards of care, and research developed to ensure your product is safe and your plant is following proper hygiene guidelines.**

Cleaning & Restoration Services, Inc. (CRS) has adopted AIB Consolidated Standards as its minimum standard of performance. Specific project, client or regulatory agencies may apply more stringent standards to which CRS will comply in the performance of its work. CRS does not perform any work or services related to asbestos containing materials (ACM).

Summarized below are key components within AIB Consolidated Standards which CRS may apply to the scope of its projects and to address the needs of its clients. Specific Proposals for Service or quotations will contain detailed specifications, terms and conditions applicable to the scope of work for the project.

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1.0 Determining the Need for Cleaning & Restoration-Food Manufacturing facilities need to be cleaned when an inspection indicates that the facility is contaminated with a significant accumulation of particulate or if microbial contamination conditions have reached or exceed ambient outdoor levels. If the preliminary inspection (or monthly self audits) shows contamination buildup, cleaning is usually recommended. Often, facility components collect significant amounts of debris and particulate during normal operation, as well as, construction activities within a building. It is recommended that buildings undergoing renovation be verified clean and protected before the facility is permitted to operate.

CRS recommends that consistent plant inspections be part of a building's overall self audit and indoor air quality (IAQ) management program.

2.0 Project Evaluation-When identified contamination or other criteria triggering the need for cleaning exists, CRS recommends a project evaluation take place prior to initiating cleaning work under the direction of CRS project manager and a representative from the plant. The project evaluation may include up to three steps: 1) determining the building usage by classification (food mfg, food pkg and etc…) ; 2) identifying the type of contamination present in the facility; and 3) conducting an indoor environmental impact survey. Environmental impact surveys will be conducted under the supervision of CRS by qualified staff specialists or experienced third-party consultants. The contamination inspection and the environmental impact survey will include a documented visual evaluation of representative sections of the facility and the occupied spaces entering plant areas. It may also include air sampling for particulate or microbial matter. This evaluation serves to document conditions within the plant and verify the overall physical integrity of plant cleanliness, as well as, HVAC system components and surfaces. Information collected from the project evaluation is used to define the scope of the cleaning and restoration project, cleaning techniques to be employed, the environmental engineering controls required for the workspace and any unique project requirements. Classifying the type of building and its uses is an important part of project evaluation. Cleaning methods, project specifications, environmental engineering controls, and cleanliness verification methods may vary among different buildings.

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3.0 Environmental Engineering Controls & Management Practices

To the extent practical and feasible, CRS uses engineering controls to assure worker safety and health, and to prevent cross-contamination. Engineering controls may include, but are not limited to source control, isolation barriers, covering critical equipment, dust suppression methods(**utilization of air scrubbers to maintain a clean indoor air environment during cleaning**), HEPA vacuuming and filtration, detailed cleaning and a sanitary approach. During audit cleaning procedures, appropriate environmental engineering controls will be established to keep contaminants associated with the project from migrating to other spaces in the building. When disrupting biological contaminants within a manufacturing facility, the inclusion of an indoor environmental professional (IEP) on the project team may be necessary to recommend and implement the appropriate engineering and environmental controls to protect the indoor environment and to monitor effectiveness. The effectiveness of environmental engineering controls may be demonstrated by using monitoring devices such as laser particle counters, digital pressure differential manometers, and other analytical or measuring devices such as meters or filtering systems. Monitoring is highly recommended by CRS in buildings containing sensitive environments or contents, when occupants have special health considerations, or when biological contaminants are being disturbed within a facility. Engineering controls and project management techniques implemented by CRS on a project basis may include:

-Project Scheduling & Coordination
-Health & Safety Planning
-Respiratory Protection
-Control of Hazardous Energy (Lock and Tag)
-Confined Spaces
-Hazard Communication
-Personal Protective Equipment
-Fall Protection
-Project Work Plan
-Work Site Containment
-Cleaning Procedures
-Equipment Decontamination
-Temporary Smoke & Fire Detection Controls
-Contaminant Management, Removal and Disposal
- Ambient Air Cleaning
-Project Monitoring
-Verification of Cleanliness
-Project Documentation

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4.0 Overhead Cleaning Procedures and Guidelines-An audit/overhead cleaning includes all exterior surfaces of the facility's air distribution system, busbars, conduit, tops of light fixtures, piping and more. This includes the entire overhead areas of the plant 14' and higher. Equipment and structural overheads (including lights, pipes, beams and vent grids) are scheduled for periodic cleaning on the Master Cleaning Schedule. All Critical Zones must be cleaned to ensure product safety.

4.1 **Collection Devices** - Collection devices will be operated continuously during cleaning to convey and collect debris, as well as prevent cross migration of dislodged particulate during the overhead cleaning process to protect the indoor environment.

4.1.2 **Manual/Mechanical Agitation** - Dislodging contaminants from exterior overhead duct system components, piping, busbars is accomplished by CRS through manual or mechanical agitation techniques. Mechanical agitation techniques require the use of devices or tools to dislodge debris adhering to exterior overhead surfaces, so that debris may be safely conveyed to dust collection devices. Agitation devices may include cable driven brush systems, compressed air systems, power water wash systems, pneumatic and electric driven brushes or manually using hand tools such as contact vacuum brushes, extension poles with brushes and dusters.

4.1.3 Contact Vacuuming - Contact vacuuming utilizes HEPA-filtered Equipment and backpack vacuums in designated areas of the Food Manufacturing facility. Cleaning is performed by the application of a vacuum in combination with a brush attachment directly to the contaminated surface. The overhead area being remediated using HEPA contact vacuuming must also be negatively pressurized using a vacuum collection device(when possible).

4.1.4 Wet Cleaning - Power washing, steam cleaning, or any other form of wet process cleaning of facilities overhead components will be accomplished so as not to damage the components or surrounding facility. CRS highly recommends that cleaning agents or water not be applied to porous overhead components. All overhead components requiring wet process cleaning will be cleaned in accordance with the chemical manufacturer's written instructions and any applicable federal, state, and local regulations. Treatments designed to inhibit growth or re-soiling may be applied following cleaning according to manufacturer's directions.

4.2 Exhaust Fans and Blowers- All blowers and exhaust fan components such as blower wheels, blower housings and related components are to be cleaned unless otherwise specified. During wet cleaning, precautions will be taken to assure that fiberglass insulation and other porous materials do not get wet.

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5.0 Remediation of Biological Contamination-This section defines CRS general processes for remediating microbial and other biological contamination (bird droppings, animal feces, etc.) within an Food Manufacturing environment. Each project is approached uniquely and a specific plan prepared to address the client needs and objectives. The remediation plan for mold and biological decontamination will include removal of contaminated materials or employ aggressive cleaning techniques when removal is impractical. Removal of contaminated porous materials may be recommended.

5.1 Cleaning Methods - Surface cleaning is to be performed using manual/ mechanical agitation methods to remove particulate, debris, nutrient sources and surface contamination. Cleaned surfaces must be capable of passing cleanliness verification methods or applicable standards of the client.

5.2 Removal of Microbial Contaminated Porous Materials – CRS recommends that porous materials with actual fungal growth be removed. The exposed non-porous substrate underneath the porous materials may be cleaned and treated before new replacement material is installed. When removal of all contaminated porous material cannot be performed, partial removal to the greatest extent possible should take place. This must be followed by surface cleaning of remaining material.

5.3 Surface Treatments - Surface treatments may be used to restore the integrity of material surfaces only as an interim control measure, and must not be used as a substitute for complete mold cleaning or complete removal. Surface treatments must only be applied after confirming the system has been cleaned, utilizing the cleanliness verification tests or applicable standards of the client.

5.4 Antimicrobial Surface Treatments and Coatings - Use of antimicrobial treatments and/or coating products may be considered only after surface cleaning has been performed and the need for such treatment has been deemed necessary. When used, antimicrobial treatments or coatings are to be applied in strict accordance with the manufacturer's written recommendations or EPA registration listing. Any antimicrobial product used in an Food Manufacturing facility must be specifically registered by the EPA or other applicable regulatory agency for use in Food Manufacturing facilities, have undergone a comprehensive risk assessment for such use, and contain specific and detailed label directions.

5.5 CRS Antimicrobial Products – CRS only utilizes EPA approved antimicrobial products. Material Safety Data Sheets (MSDS) for these products and descriptive literature can be provided on request.

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6.0 Verification of Cleanliness-CRS qualified professionals or independent third-parties will perform cleanliness verification directly after an Audit/Overhead cleaning has been performed and prior to the component being used in operation. All verification tests will be conducted prior to the application of any surface treatments of the component's surface. This post cleaning verification process applies to all porous and non-porous components within the Food Manufacturing's overhead areas. The verification inspection is not intended to determine the reduction in biological levels, it's only use is to determine if the product is safe guarded from possible overhead contamination.

Methods of cleanliness verification are described as:

- Visual Inspection
- Surface Comparison Evaluation
- AIB Audit Results

Note: CRS will follow all GMP's in accordance with each company's guidelines, as well as, all OSHA requirements that apply. All overhead areas will be cleaned to a functionally clean level. Our standards either meet or exceed AIB Consolidated Standards and HACCP Standards for Food Manufacturing facility cleaning.