



Guidance for Restoration Contractors Assisting Clients With COVID-19 Concerns

Introduction

The restoration industry has extensive experience in assisting individuals and organizations when their lives have been disrupted by catastrophic events such as floods and fires. So, it is no surprise that clients are turning to restoration professionals to assist them in properly responding to the corona virus pandemic referred to as COVID-19. In such circumstances it is imperative that restoration professionals be clear about what their services can, and cannot, accomplish for the client.

This document has been prepared by a wide range of experts from the cleaning and restoration industry to assist contractors in managing the risk arising from the efforts to mitigate the COVID-19 pandemic. These recommendations are based on extensive industry experience and, to the extent possible, have incorporated the guidance provided by US Center for Disease Control (CDC) and the US Environmental Protection Agency (USEPA) as of the date of this document. While each company and project is unique and requires a specific work plan, restoration contractors should adjust their work practices to conform with the recommendations contained in this document.

Basic Information About Corona Virus

Corona viruses are a type of organism that often cause respiratory diseases in people and animals. In the fall of 2019 a new mutation of a corona virus was first detected in China. The new variation was soon recognized to have properties similar to the 2003 coronavirus that led to the description of *Severe Acute Respiratory Syndrome* (SARS). As such, the virus was named “SARS-CoV-2” by the World Health Organization (WHO). Exposure to the SARS-CoV-2 can lead to a specific form of illness characterized by very high fever and dry cough named “coronavirus disease 2019” - abbreviated “COVID-19”.

Within months of its identification, despite extensive efforts at containment, COVID-19 had spread around the globe and was declared by the World Health Organization to be a “pandemic”; a world-wide epidemic of an illness for which people have no natural immunity. To address the risk, significant efforts are being directed at developing a vaccine, but as this document was being prepared no such preventative medicine was available. According to the US Center for Disease Control (CDC) “Nonpharmaceutical intervention would be the most important response strategy” to COVID-19. Their pronouncement means that infection control and home care of the affected are the key response measures.

While all corona viruses do the most damage to individuals with weakened immune systems and underlying health problems, COVID-19 is a disease that has proven to be most serious for the elderly. This means that medical facilities and eldercare accommodations are especially vulnerable to outbreaks.

Infection Control Principles

Decades of scientific studies and practical experience has shown that effective control of infectious agents in the population is a nearly equal combination of adjusting peoples' behavior and taking additional steps to stop the spread of contamination from surfaces. This dual approach to infection control is necessary for COVID-19 as the best available information indicates that it is spread both by direct exposure to the droplets aerosolized when an infected individual coughs or sneezes and by secondary exposure of uninfected people to objects and surfaces with residual viral particles.

This secondary exposure is likely more of a problem for COVID-19 than the normal flu as some early reports from the CDC indicate that the virus may remain viable on nonporous surfaces for up to nine days as compared to 1-3 days for normal influenza viruses. The recommendations in this document are designed to address secondary human transmission through the cleaning of facilities to prevent the spread of the virus from surface within buildings. While the exact extent of disease transmission from contact with surfaces is currently unknown, initial indications are that prolonged exposure to contaminated surfaces does lead to higher infection rates. Therefore cleaning surfaces and applying a disinfectant are important risk mitigation techniques.

During past viral outbreaks the behavior component of the infection control process has been voluntary. Individuals are reminded to stay home if they are sick, educated to cover their cough/sneeze, and encouraged to wash hands frequently. With COVID-19 this voluntary approach has been supplemented with CDC suggested cancellations of activities that would bring large numbers of people into close proximity; including closure of schools, colleges, sporting events and amusement venues. The containment efforts have now resulted in authorities closing bars and restaurants in many states. Severe travel restrictions have been implemented for overseas trips.

While these measures to adjust behavior will hopefully slow the spread of the disease, such efforts need to be matched with practices proven to minimize secondary transmission. Past experience with other infectious agents has demonstrated that cleaning touchpoints and enhancing the level of viral destruction on surfaces through specialized treatments that broadly apply disinfectants have a positive impact in stopping the spread of disease.

Restoration contractors must emphasize to their clients that actions taken to reduce exposure from secondary transmission from surfaces with reservoirs of viral material must be matched with procedures to prevent re-contamination. Cleaned and treated surfaces can become re-contaminated in

minutes if an infected individual is present and sneezes or coughs without controlling the droplet spread.

Potential Services

Restoration contractors who have experience dealing with other hazardous microorganisms, such as sewage mitigation and mold remediation, can offer valuable services to combat COVID-19. The most basic service will likely be enhanced cleaning of touchpoints and application of disinfectants to other surfaces. It is important that the restoration contractor communicate clearly and use consistent terminology when describing their services. Because no currently available antimicrobial has been tested against the SARS-CoV-2 (see the next section for more details) the verbiage to apply disinfectant rather than to clean and disinfect is important. With no validation of a product's effectiveness for this particular virus there is no way for the contractor to know if they have reached the appropriate level of microbial reduction to meet the definition of the term "clean and disinfect". As such, contractors are offering a service to clean and apply an appropriate EPA registered disinfectant in accordance with the application directions provided by the master label.

Even with that distinction in language, it is clear that the cleaning of touch points and specialized treatment that involves the application of disinfectant is an essential service. If demand for such services grows beyond that which the restoration contractor can accommodate, consideration should be given to partnering with the client to educate existing custodial staff on proper techniques for cleaning touchpoints and then the restoration contractor can provide the specialty treatment of applying disinfectants to other surfaces.

Other services that the restoration contractor may be able to provide to clients in the medical and eldercare industries are the temporary isolation of rooms or areas to create negative pressure treatment or quarantine spaces. Such services should only be offered by contractors with extensive knowledge of infection control risk assessment (ICRA) guidelines and experience assisting medical facilities. HEPA vacuuming and the use of HEPA filtered equipment as air scrubbers can also improve the environment by reducing the level of airborne particulates, which transport virus particles.

With the recent announcement from CDC that the virus can likely be transmitted by contact with contaminated clothes, linens, and shoes, the washing of soft goods took on increased importance. Restoration contractors that have equipment/processes for cleaning soft goods and want to offer those services should use the CDC guidelines as a baseline for the work.

Pre-work Preparations

Restoration contractors should only offer services to assist with the control of COVID-19 if they are suitably prepared with the proper training, equipment, and insurance to perform these services and have experience in dealing properly with other biological contaminants. Given the rapid

developments surrounding this situation it is essential that restoration contractors review their current insurance policies to see if they have proper coverage. Even those companies that have endorsements to cover mold or sewage work may need additional policy enhancements depending on the definitions in their general liability and adjunct insurance binders.

At a minimum, contractors should review their general liability, contractor's pollution liability, professional liability, and workers compensation policies with an experienced agent or broker to determine if:

1. There is a communicable disease exclusion.
2. There is a separate exclusion for virus or microbial matter.
3. That the cleaning and applying of disinfectant constitutes a material change in the insured risk.
4. The cleaning and applying of disinfection for viral control is specifically covered, or at least not specifically excluded.
5. The full scope of the offered services is covered.

A thorough review of company policies related to site risk assessment, use of personal protective equipment, and infection control work practices is critical. American and Canadian regulatory agencies require employers to protect their workers from a "recognized hazard". This means that employers are responsible for taking reasonable steps to protect their employees.

Any respiratory protection assigned to crew members assigned to do touchpoint cleaning or surface treatment, including filtering facepieces like an N-95 mask, must be done in compliance with OSHA or Health Canada regulations. Typically those compliance items include employee medical evaluation, fit testing, training, and a written program. In contrast, providing surgical style masks to potentially infected individuals to control the spread of sneeze/cough droplets prior to their departure from the worksite does not constitute giving them a respirator; an action that triggers compliance with respiratory protection regulations.

Providing services in workplaces and public buildings generally require only a basic risk assessment to protect workers from biological, chemical, and safety hazards. In contrast, work performed in food service establishments requires compliance with numerous food safety regulations and generally require the use of disinfectants that are suited for such operations. Medical or eldercare settings have specific infection control risk assessment (ICRA) protocols for contractors doing work in such buildings. Many state and provincial regulatory agencies, as well as facility specific rules, require training and/or certification to assist with cleaning/sanitization activities in these healthcare facilities.

The crisis nature of the COVID-19 response means that many usually available supplies may be in short supply. This may require contractors to use alternate PPE items they are not familiar with, or

potentially re-use single use products. As an example, the CDC has already posted procedures explaining how personnel may have to store and reuse single use disposable respirators. Contractors may have to use different personal protective equipment (PPE) than what they are used to. Shortages of disinfectants may also occur.

Choosing a sanitizing product can be confusing as the sudden onset of the SARS-CoV-2 virus means that commonly used antimicrobial products have not been tested or have received a United States Environmental Protection Agency (USEPA) registration specifically for cleaning surfaces with viral materials that cause COVID-19. In this situation the USEPA falls back on its “emerging pathogens program” to provide guidance in evaluating a product’s effectiveness in arresting the spread of the virus. Their guidance on the best practices to break the chain of infection when new microbial threats appear allows companies with existing registrations that document product effectiveness in killing similar organisms to utilize those chemicals against the new threat. Therefore, any products used by the restoration contractor should be listed on the USEPA “Emerging Pathogen/List N” or meet the requirements of the emerging pathogens procedures for enveloped viruses (the class of organism of the SARS-CoV-2). It is critical that restoration contractors understand that the “List N” is not exhaustive, does not represent any USEPA endorsement of listed products, and changes repeatedly as products that are not currently listed demonstrate similar effectiveness.

Using HEPA filtered equipment is an important part of infection control efforts for COVID-19. Nevertheless, using such vacuums and negative air machines that have not had the reassembly of the seals field validated using a laser particle counter or similar method runs the risk of spreading contamination rather than removing it. In a similar fashion, equipment needs to be scrupulously cleaned between each project. Contractors should validate their equipment cleaning procedures to ensure that no microbiological contaminants will be transferred from one location to a different client.

Crew Safety

The minimum personal protective equipment (PPE) recommended by the CDC for individuals potentially exposed to COVID-19 includes: gloves, gowns, eye protection, and respirators. Typically, workers in the restoration industry use disposable suits with attached hoods and booties for contaminant control work.

However, if a shortage of disposable suits occurs, disposable lab coats or full front treatment gowns with long sleeves that tie in back could also be used for body covering. Depending on the availability of disposable suits, the workers may have to move to reusable medical style “scrubs” consisting of top, pants, cap, and shoe covers. Such outerwear can be worn as a replacement for street clothes if a controlled changing area is available or purchased oversized and worn on top of street clothes. In such cases proper provision for the collection, handling, and cleaning of the clothes is necessary.

For most work conducted by restoration contractors related to mitigation of COVID-19, CDC and Health Canada recommend an N-95 filtering face piece as minimum protection against possible exposure to the viral contaminants. Out of an abundance of caution, an N-100 is recommended for restoration contractors in situations where airborne contamination may be extensive due to the existing conditions or the cleaning methods employed. If filtering face pieces are used, a full face shield rather than safety glasses can be used in order to minimize fogging and to protect the eyes from exposure to potential contaminants. A full-face negative pressure respirator with HEPA filters can be used to provide respiratory and eye protection in one device. A greater level of protection is provided by a mask or hood style powered air purifying respirator (PAPR). Respiratory protection must also be matched to protect workers from the chemicals used when applying disinfectants to the surfaces.

Regardless of what particular personal protective equipment is used to protect the workers, it is necessary to train them how to use it properly. This includes the correct methods of donning and doffing the equipment. Because “little” actions can be important to protect workers and minimize the spread of infectious agents there are even proper, detailed, procedures for removing surgical style gloves.

Contractors should emphasize to their crew members and clients that helping stop the transmission of COVID-19 is serious work and does carry some risk. Therefore, all safety and health procedures must be followed without exceptions.

Cleaning Of Touchpoints

The first step in cleaning and sanitizing to break the chain of COVID-19 illnesses from secondary surfaces is to remove soil and other surface contaminants. However, since viral particles can settle on all types of surfaces the emphasis is on cleaning surfaces more likely to be touched by occupants; commonly referred to as “touchpoints”. Since people are not precise when touching objects, touch point cleaning should extend past the focused item 3-12 inches.

Common touchpoints include door knobs and locks, door push bars, door edges and jambs on the side opposite the hinges, stair and ramp hand railings, cupboard handles and drawer pulls, appliance handles, light switches, table and desktops, telephones, toilet seats and flush handles, faucet handles, soap pumps, keyboards and mice, elevator buttons, credit card keypads, vending machine buttons, equipment controls, television remote controllers, chair armrests, bedrails, and countertops.

Touchpoints will also vary by the type of facility being cleaned. Pew tops and armrests, communion rails, confessional kneelers, altars, and holy water dispensers are touchpoints that need cleaning in churches. Toys, books, and teaching supplies will need attention in schools. Medical facilities will require an additional focus on wheel chair handles and wheel grips, computer stations, IV poles, divider curtains, blood pressure equipment, bed stands, food delivery carts, laundry and trash

containers, and nurse call buttons. While not a touchpoint that typically gets addressed by the restoration contractor, clients should be advised to remind occupants to frequently clean their cell phones during pandemics and times of increased disease transmission.

Although soap and water is often an effective solution when cleaning touchpoints; if the surfaces are not visibly soiled using a cleaner that incorporates antimicrobial chemistry can improve efficiency. There are a plethora of products and application methods available. Typically, a trigger sprayer and a wiping cloth are used for most touchpoints. In that circumstance, spraying the cloth and then wiping is preferable to spraying the surface.

If an allowable application method under the USEPA registration for the particular chemical, substituting pump up devices that deliver the chemical product as a foam is a technique that has multiple advantages over a sprayer for cleaning touchpoints. A foam application lets the worker see what has been covered, allows the product to stay on the surface longer without drying, and uses significantly less of the cleaning product. For facilities with a large number of desks, tables, or counters, using a foam applicator and squeegee to remove the residue into a rag or disposable towel is another efficient cleaning method.

The specific examples provided in this section should not be considered the “best methods” as each situation presents its own challenges. Each project should be evaluated for procedure and methods that are appropriate to meet the goals of the building and clients. That is why the primary keys to proper touchpoint cleaning are developing a facility specific checklist of critical touchpoints, providing the checklist to workers with training on the particular products and application methods to be used, and allowing adequate dwell time for the cleaner/sanitizer. Additionally, appropriate supervision of the cleaning activities, as well as post cleaning evaluation (see separate section below) must be part of proper touchpoint cleaning.

Specialized Treatments To Apply Disinfectants

Cleaning touchpoints is crucial to reducing the spread of COVID-19. To further reduce the potential for infection transmission touchpoint cleaning should be matched with the application of disinfectants to the many surfaces where viral contaminants can settle but are not as frequently touched. Applying appropriate antimicrobial solutions as an aerosol is a way to reduce microorganisms on walls, floors, and horizontal surfaces effectively. Caution should be used to assure that the materials and methods used are compatible with the uses of the building and any rating the structure has obtained for energy or environmental efficiency.

There are numerous processes and systems that can be effective in completing large area sanitization. Many antimicrobial products currently used in the restoration, medical, and food service industries can be utilized by adjusting the application method from trigger sprayer to pump sprayer, misting equipment, airless sprayer, electrostatic sprayer, ultralow volume (ULV) fogger, or thermal fogger. Prior to the selection of any alternate application method cross check the product label (not

just the Safety Data Sheet or use instructions) to confirm that the product is registered for that application process.

Other systems that produce hydrogen peroxide, chlorine dioxide, or ozone in a gaseous state can be used if the system is approved by the USEPA or the Food and Drug Administration (FDA) for the purpose of surface sanitization and/or listed on the USEPA “Emerging Pathogen/List N” or meet the requirements of the emerging pathogens procedures for enveloped viruses (the class of organism of the SARS-CoV-2).

Several steps should be completed prior to the broadscale application of disinfectants to surfaces. Return air vents should be covered to prevent migration of the disinfectant into the equipment or to other areas. While air duct cleaning can be incorporated into COVID-19 response procedures, the USEPA has strict rules regarding which products can be used in HVAC systems. Opening doors or windows to reduce the level of airborne droplets is recommended by the CDC. Setting up HEPA filtered negative air machines as air scrubbers can reduce the airborne particulates that get dislodged by the treatment process.

After selecting an approved combination of antimicrobial product and application method, the prepared antimicrobial should be applied in accordance with label directions. At a minimum, wall surfaces starting at seven feet above the floor should be included in the application of the disinfectant. Shelves, bookcases, file cabinets, or other fixtures may require a higher starting point. Application should begin at the designated upper height and move down to floor level in overlapping passes to ensure that every part of the surface to be treated is adequately covered.

Depending on the listed product dwell time and the application method, the antimicrobial may be able to be applied once or it could require multiple treatments to keep the surfaces wet for the minimum time. Careful assessment of the surfaces will be necessary to prevent the product from streaking or running while keeping the surface wet for the recommended contact time.

Floors and other horizontal surfaces should be treated after the product has been applied to all the walls. Floor surfaces should be free of visible debris before treatment. In most cases, HEPA vacuuming of the floor surface will remove the majority of the visible debris. Regular vacuuming, dust mopping, or sweeping is not recommended when cleaning to prevent COVID-19. Disinfectant should be applied to floors in a pattern that allows the operator to finish at an exit without having to walk over the wet floor.

Post-work Project Evaluation

The combination of touchpoint cleaning and application of a disinfectant to other surfaces is a proven strategy to break the chain of infection. Although the efforts are designed to affect micro-organism that are too small to see without magnification, a detailed post work visual inspection is still the first step to evaluate the effectiveness of the efforts to control COVID-19. A white cloth

should be wiped over representative touchpoints that have been cleaned and should not reveal any discoloration or residue. Any visible deposit on the cloth indicates a need for re-cleaning of all the touchpoints represented by the sample.

If desired by the contractor or the client, analytical methods can be used to supplement the visual review. A useful process that provides on-site results is a swab collection of surface samples using an adenosine triphosphate (ATP) meter. While ATP meters do not identify viral contaminants since those organisms do not produce ATP, the overall reduction in biological contaminants is an excellent surrogate measure of cleanliness since selective cleaning of specific contaminants is impossible (*i.e.*, it is not possible to clean bacteria and leave behind just the virus).

Given the ability of ATP to measure general biological residue, representative testing using an ATP meter can be conducted if additional assurance of project effectiveness is necessary. Sample results should be compared to guidelines for hygiene surface testing provided by the manufacturer of the specific ATP meter. Another approach to documenting the effectiveness of the process is to utilize the ATP meter on a number of representative touch points prior to the start of cleaning and again at the end to compare the level of reduction that was achieved.

Project Documentation

Regardless of the technology and chemistry used for touchpoint cleaning and surface sanitization treatment, the restoration contractor must document the work to confirm that it was completed correctly. Project documentation for COVID-19 activities should include written description and photographs of any isolation barriers set up as part of the cleaning/sanitization process.

Specific PPE for workers should be documented. Records should also be kept regarding the specific equipment that was used for chemical application including the process that was used to clean the equipment prior to adding the selected antimicrobials. These records should also confirm how the product was mixed if it was not a ready-to-use cleaner/sanitizer. The correct application rate is another crucial data point to be collected. Evidence of appropriate dwell time, as noted from the product label, needs to be recorded. Finally, if the cleaning/sanitizing product requires rinsing or neutralization, the procedures to comply with that requirement should be fully explained.

Acknowledgements

RIA would like to thank the following individuals who contributed their time and expertise to the development of this document; especially to ServPro for their financial support for this industry wide effort. Michael Pinto, FLS, CSP, CMP, Wonder Makers Environmental, the Chairperson of the RIA's Environmental Council was the primary author of this document. Contributors included: J. Scott Armour, M.S., Armour Applied Science; Kristy Cohen, Restoration Industry Association; David Dybdahl, CIC, CPUC, ARM, American Risk Management Resources Network; John DiMenno, CR, CMRS, CMP, WLS, Romualdi Davidson and Associates; Norris Gearhart, CR,

Gearhart and Associates; Mark Meece, Complete DKI; Tom Peter, Insurance Restoration Specialists; Kent Rawhouser, CMP, WLS, A&J Restoration Services; and Shawn Silliman, CR, WLS, First Restoration Services. Reviewers included Hugh Crisp, Blue Sky Restoration Contractors; Dr. Halden Shane, Sterimist; Bruce White, SDS Forensic Laboratory.

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