



Maintenance Management Order

SUBJECT: Pandemic Flu Cleaning Contingency

DATE: September 7, 2007

NO: MMO-087-07

- TO:**
1. Maintenance Capable Offices
 2. Plant Manager, Maintenance Capable Offices
 3. Manager, Maintenance Support, Area Offices
 4. Manager, Safety & Health, District Offices
 5. Safety Specialist, Plant
 6. Human Resource Analyst/Safety Area Offices
 7. Manager, Safety & Health, Headquarters
 8. District Homeland Security Specialists
 9. Area Emergency Preparedness Managers

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This Maintenance Management Order (MMO) supersedes MMO-129-06 and provides updated guidance regarding additional disinfecting procedures required at any facility located in an area experiencing an influenza pandemic. Following the cleaning requirements contained in MS-47 will ensure a safe and healthful work environment under normal circumstances. During an influenza pandemic however, more stringent cleaning methods must be adopted in order to protect the safety and health of postal employees and postal customers. Given the concern regarding the spread of influenza through contaminated objects and surfaces, additional measures will be required to minimize the transmission of the virus through environmental surfaces such as sinks, handles, railings, and counters. The additional disinfecting requirements contained in this MMO will assist in reducing the spread of influenza.

Each facility should continue with their normal cleaning routines unless they are notified that their facility is located in an identified influenza pandemic area. District or Area management will determine if an influenza pandemic situation exists and notify those facilities that are impacted by the pandemic. Maintenance management must initiate the additional disinfecting requirements once they have been notified an influenza pandemic situation exists in their area. Maintenance management must make preparations in advance to ensure they can adequately respond if notified their facility is in a location affected by an influenza pandemic.

Maintenance Managers should also assist the Senior Postal Official (SPO) at postal facilities that utilize contract custodial services to ensure the additional disinfecting requirements are addressed. The SPO should coordinate the additional requirements with the contracting officer. If custodial resources are not available for these tasks, the SPO may require non-custodial personnel to perform them. However, before non-custodial postal employees can perform these cleaning requirements they must be trained on the proper use of the disinfecting chemicals and provided with any necessary personal protective equipment (PPE).

The attachments in this MMO provide information covering items to focus on, disinfecting frequencies, and recommended products and methods. See list of attachments at the end of this transmittal letter.

Direct any questions or comments concerning this bulletin to the HelpDesk, Maintenance Technical Support Center, P.O. Box 1600, Norman OK 73070-1600; telephone FTS 2000 (405) 573-2123 or toll free (800) 366-4123.

Earl J. Jones
Manager
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Maintenance Policies and Programs

- Attachments:
1. General Information on Influenza
 2. Disinfecting Methods and Materials
 3. Items that Need to be Specifically Disinfected during a Pandemic
 4. Recommendations on Making Bleach Solutions
 5. Documentation and Forms for Tracking Additional Cleaning Activities and Work Hours
 6. Steps Individuals Should Perform to Reduce Contact with Contaminated Surfaces
 7. Resources and Links for Additional Information.

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ATTACHMENT 1**GENERAL INFORMATION ON INFLUENZA**

This attachment provides general flu information and emphasizes the importance of escalated cleaning procedures to prevent further spread of disease.

Influenza, also called the flu, is caused by a virus. The virus is an organism too small to be seen by the naked eye. Influenza viruses have threatened the health of human populations for centuries.

Every year, a flu virus infects people around the world. This flu is a yearly, or seasonal, event. In the United States, the flu season begins in late December and ends in March. Typically, the seasonal flu is most dangerous for the very young, the very sick, and the very old.

A pandemic is an outbreak of a disease that covers a wide geographic area and affects large numbers of people. Pandemic flu will affect people worldwide and can appear at the same time as seasonal flu. Pandemic flu is caused by a new virus or one to which humans have not been exposed in a very long time (probably not within the lifetime of anyone currently living). Pandemic flu spreads rapidly and is seen worldwide. Pandemic flu infects large numbers of people of all ages and causes serious illness and deaths. No one knows for sure when the next flu pandemic will occur. The period between flu pandemics does not follow any regular pattern.

The World Health Organization (WHO) states that "once a contagious virus emerges, its global spread is considered inevitable." Also, given the speed and volume of international travel, the virus could reach all continents in less than three months.

There is growing evidence that a significant proportion of flu is spread via hands and surfaces such as handkerchiefs and tissues, faucet and door handles, telephones, and other surfaces touched by an infected person. The most effective way to avoid the flu virus is to wash hands frequently during the day and avoid touching the mouth, nose, or eyes. There is no evidence that influenza transmission can occur across long distances (e.g., through ventilation systems) or through prolonged residence in air.

In the event of a flu pandemic, the Centers for Disease Control and Prevention (CDC) recommends cleaning frequently touched surfaces and commonly shared items at least daily and when visibly soiled. Disinfection of phone receivers, refrigerator doors, kitchen and bathroom faucets, light switches and cover plates, microwave oven handles, TV remotes, and door knobs is also good practice. Items and surfaces common to the postal environment include counters, cases, elevator and vending machine buttons, and machine control buttons. Transmission from contaminated hard surfaces is unlikely, but influenza viruses may live up to 2 days on such surfaces. Surfaces that are frequently touched with hands should be cleaned at least daily during community outbreaks. At a minimum, facilities should develop procedures for disinfecting common and toilet areas during an outbreak and develop procedures for employees to follow to keep work areas clean (e.g., disinfecting phones, keyboards, personal items). There is no evidence to support effectiveness of widespread disinfection of the environment or air as a means of preventing the spread of the flu virus.

Overall, the U.S. Department of Health and Human Services (HHS) recommends that infection control for pandemic influenza in workplaces should focus on keeping sick workers away while they are infectious, promoting respiratory hygiene/cough etiquette, and promoting hand hygiene.

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ATTACHMENT 2**DISINFECTING METHODS AND MATERIALS**

This attachment covers disinfecting methods, products and frequency, and disposal of waste.

The best way to kill flu virus on one's person is by washing hands several times a day for at least 20 seconds with either soap or hand sanitizers. It will be up to building occupants to ensure their hands are washed often and long enough, but cleaning crews can still encourage proper techniques. Posted signs in restrooms serve as good reminders

Cleaning and disinfection of frequently touched surfaces will be the main focus of building services personnel during a pandemic. In order to properly disinfect a surface, it must first be cleaned. Current cleaning products and practices shall stay in place, with the addition of disinfection procedures.

To disinfect surfaces against influenza viruses, the CDC recommends the use of an Environmental Protection Agency (EPA)-registered household disinfectant labeled for activity against bacteria and viruses, an EPA-registered hospital disinfectant, or an EPA-registered chlorine bleach/hypochlorite solution.

The disinfectant should be applied according to the manufacturer's instructions. Common safety precautions related to the mixing and use of chemicals should be followed. Material Safety Data Sheets (MSDS) should be obtained from the supplier or manufacturer prior to use of any new product. Proper Personal Protective Equipment (PPE) should be used as needed, to include eye and skin protection. The manufacturer's instructions and MSDS are good places to find PPE recommendations. Chemical splash goggles, gloves, and other PPE are readily available through national contracts, such as Grainger, through Ebuy.

Dwell time, or the time the disinfectant or bleach solution remains on a surface prior to wiping or rinsing, is important to how well it kills germs and viruses. For example: the disinfectant mentioned below (Triad III) has a 10 minute dwell time. If a site chooses to use a bleach solution, it should be mixed with water in a 0.24% solution, which is 2/3 cup bleach per 1 gallon water. This bleach solution should be allowed to stand (or dwell) for 5 minutes prior to rinsing. See Attachment 4 for an explanation on how to mix bleach solution.

Tourly cleaning and disinfecting is most effective in preventing the spread of disease. At minimum, common areas, lavatory fixtures, and items subject to frequent hand contact should be cleaned and disinfected daily.

Disposal of used and unused disinfecting products should be done in accordance with all applicable federal, state, and local regulations.

Headquarters has investigated disinfectants available through our nationally mandated contracts. The following items are recommended:

For daily and tourly disinfection by custodians of fixtures, common areas, handrails, case ledges, light switches, buttons, etc :

Clorox Ultra Bleach
Grainger Item # 1VN32
Cleanwise # 50092

Triad III Disinfectant Cleaner

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Cleanwise # 56047

For periodic disinfection by employees of items such as telephones, controls, desks, keyboards, steering wheels, etc...:

Disinfectant wipe
Grainger # 1AU21 or 1AU17
Cleanwise # 50094 or 50095

To encourage frequent hand washing:

Sign, wash hands
Grainger # 6CL57, 4NL88 or 6FW26
MSC # [00504779](#) or [00504787](#)

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ATTACHMENT 3**ITEMS THAT NEED TO BE SPECIFICALLY DISINFECTED DURING A PANDEMIC**

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1) Toilet Room	Disinfect Tourly
<ul style="list-style-type: none"> a) Door knobs or handles b) Light switches and cover plates c) Paper towel dispenser knobs or handles d) Faucet handles e) Toilet and urinal flush levers f) Toilet and urinal partitions, doors (including knobs, levers or slides) g) Other items identified locally 	
2) Lunch/Swing room	Disinfect Tourly
<ul style="list-style-type: none"> a) Refrigerator door handles b) Microwave door handles and buttons/keypads c) Table tops d) Door knobs or handles e) Light switches and cover plates f) Vending machine buttons g) Drinking fountain h) Other items identified locally 	
3) Locker room	Disinfect Tourly
<ul style="list-style-type: none"> a) Door knobs or handles b) Light switches and cover plates c) Other items identified locally 	
4) Workroom	Disinfect Daily
<ul style="list-style-type: none"> a) Door knobs or handles b) Light switches and cover plates c) Time clock buttons d) Handrails e) Drinking fountain f) Other items identified locally 	
5) Office space	Disinfect Daily
<ul style="list-style-type: none"> a) Door knobs or handles b) Light switches and cover plates c) Telephones d) Other commonly touched items identified locally e.g. keyboards, keypads, copiers etc. 	
6) Elevator (freight and passenger)	Disinfect Daily
<ul style="list-style-type: none"> a) Call and operating buttons b) Other items identified locally 	
7) Service/Box lobby	Disinfect Tourly
<ul style="list-style-type: none"> a) Door knobs or handles b) Light switches and cover plates c) Counters d) Patron desks e) Other items identified locally 	

8) Stairway a) Door knobs or handles b) Light switches and cover plates c) Handrails d) Other items identified locally	Disinfect Tourly
9) Corridor a) Door knobs or handles b) Light switches and cover plates c) Handrails d) Drinking fountain e) Other items identified locally	Disinfect Daily
10) Shop area a) Door knobs or handles b) Light switches and cover plates c) Handrails d) Other items identified locally	Disinfect Tourly
11) Janitor's closet a) Door knobs or handles b) Light switches and cover plates c) Faucet handles d) Other items identified locally	Disinfect Tourly
12) Other areas unique to site a) Disinfect items commonly touched by hands	Disinfect Tourly or Daily
13) Vehicles a) Steering wheels b) Door handles c) Shift knobs d) Dash board controls	Disinfect Tourly or Daily

Sites with only one working tour only need to disinfect daily or twice per day, as determined by local management.

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ATTACHMENT 4**RECOMMENDATIONS ON MAKING BLEACH SOLUTIONS****Make only enough solution for one day's use.**

Chlorine loses its effectiveness with time. Mix only the amount of solution that can be used in a single day so it will retain its effectiveness.

Dilution of bleach solution

The Postal Service, following guidance from the EPA, requires using a 0.24% bleach solution to kill the influenza virus. This is a dilution of the recommended bleach that contains 6.0% available chlorine. Chlorine solutions that are less concentrated than 0.24% are often used to remove common bacteria from surfaces; however, a 0.24% solution is recommended to kill flu virus. The solution must be in contact with the surface and virus for at least 5 minutes to be effective.

Liquid bleach is a solution of sodium hypochlorite dissolved in water. Liquid household bleach solutions come in various strengths depending upon the manufacturer of the product. The bleach recommended in Attachment 3 of this MMO comes with 6.0 – 7.35% sodium hypochlorite. Other liquid bleach products on the market and the strengths of these solutions vary from 5% to 15% sodium hypochlorite. If liquid bleach from a source other than the nationally mandated suppliers is used, refer to the item below, entitled "How to make a 0.24% solution from other liquid bleach". The recommended bleach solution for flu disinfection should be mixed with water in a 0.24% solution. A 0.24% solution means that 0.24% of the volume of the mixture is chlorine and 99.76% of the volume is water. Sometimes a 0.24% solution is also called a 2400 parts per million (ppm) solution. These names mean the same thing, as shown by the calculations below:

0.24% is a 0.0024 portion of the solution (0.24% divided by 100% = 0.0024)

0.0024 is 2,400 parts per million (0.0024 times 1,000,000 = 2,400 ppm)

1. PRECAUTIONS TO TAKE BEFORE, WHILE AND AFTER MIXING BLEACH

1. Set up the mixing operation in an open area that has:
 - Eyewash station if available, or access to a source of running water for quick flushing of eyes and skin
 - Easy access to the mixing container
 - No personnel in the immediate area of the mixing operation
 - Adequate ventilation
2. Before mixing small amounts (5 gallons or less) of low concentration liquid bleach (less than 10% chlorine), put on the following protective equipment:
 - Gloves (nitrile, natural rubber, polyvinyl chloride or neoprene).
 - Splash goggles (with either no side vents or vents with sealing flaps) are the primary method to protect the eyes, so ensure use.
3. When combining bleach and water:
 - Pour liquids and powdered bleach smoothly to avoid splashing or creating dust.

- Work close to the surface of the solution to reduce the impact of the bleach on the surface of the solution and to keep dust and splashes within the mixing containers.
4. When stirring the mixture, stir smoothly to avoid splashing the mixture.
 5. After mixing, wash your hands, face and other exposed skin with soap and water before eating, drinking, or placing anything in your mouth.

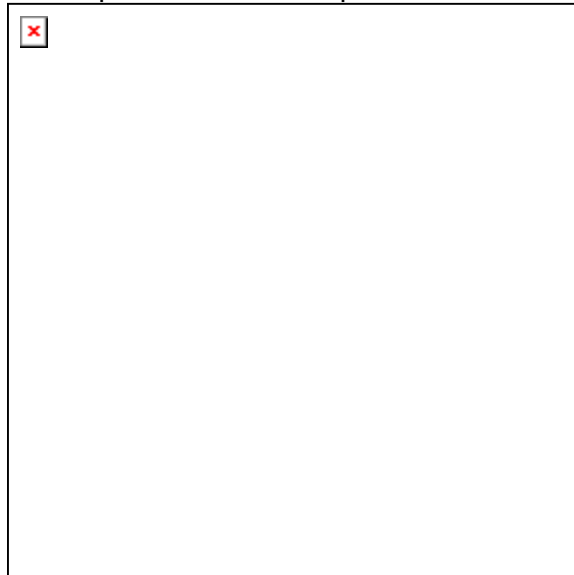
2. HOW TO MAKE A 0.24% CHLORINE SOLUTION FROM OTHER LIQUID BLEACH

1. Determine the amount of active chlorine in the bleach.
 - a. Read the material safety data sheet (MSDS) to determine the amount of available chlorine in the liquid bleach. If the MSDS does not make the contents clear, call the manufacturer or use a different product.
 - b. Make sure the bleach is sodium hypochlorite. Many products are marketed as “bleach” or “bleaching agents” that contain organic acids, sodium tetraborate, hydrogen peroxide, or other chemicals. Do not use these products.
2. Calculate the mixture.

Use the following formula to calculate the amount of bleach for a 0.24% chlorine solution:

$$\text{Ratio of water to bleach} = (\% \text{ chlorine in liquid bleach divided by } 0.24\%) \text{ minus } 1$$

Example 1: To make a 0.24% chlorine solution from a 5.25%-chlorine concentrate, use 1 part chlorine in 21 parts water:



$$5.25\% \text{ divided by } 0.24\% = 21.875$$

21.875 minus 1 = 20.875 parts water for each part chlorine, about a 1 to 21 dilution.

Example 2: To make a 0.24% chlorine solution from a 7.23%-chlorine concentrate, use 1 part chlorine in 29 parts water:

$$7.23\% \text{ divided by } 0.24\% = 30.125, \text{ round to } 30$$

30 minus 1 = 29 parts water for each part chlorine

3. Convert the mixture ratios into useful measurements.

Convert the mixture ratio calculated in step 2 into volume of liquid to add to a container by using the following formula:

Amount of bleach to add = Units (cups, pints, ounces, etc.) per gallon divided by the mixture ratio times the number of gallons of water

Example 3: Example 1 determined the ratio to be 1 part chlorine in 21 parts water to make a 0.24% chlorine solution from a 5.25%-chlorine concentrate. To determine how many cups of 5.25% bleach to add to 5 gallons of water:

Divide 16 cups per gallon by 21 = .76 cups per gallon

Multiply .76 cups per gallon times 5 gallons = 3.8 or 3¾ cups for 5 gallons

ATTACHMENT 5

**DOCUMENTATION AND FORMS FOR TRACKING ADDITIONAL
CLEANING ACTIVITIES AND WORK HOURS**

Use this form to document additional time needed for custodial work hours related to disinfection.

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Pandemic Emergency Disinfection Custodial Route Modification

Site name:
Supervisor/Postmaster:
Date:

Tour: *Route no.:*

Building Services Area:

<input type="checkbox"/> Toilet Room	<input type="checkbox"/> Lunch/Swing Room	<input type="checkbox"/> Locker room
<input type="checkbox"/> Workroom	<input type="checkbox"/> Office Space	<input type="checkbox"/> Elevator (freight and passenger)
<input type="checkbox"/> Service/Box Lobby	<input type="checkbox"/> Stairway	<input type="checkbox"/> Corridor
<input type="checkbox"/> Shop area	<input type="checkbox"/> Janitor's closet	
<input type="checkbox"/> Other Area (<i>describe</i>)		

Items Disinfected:

- Door knobs or handles
- Light switches and cover plates
- Paper towel dispenser knobs or handles
- Faucet handles
- Toilet and urinal flush levers
- Toilet and urinal partitions, doors (including knobs, levers or slides)
- Refrigerator door handles
- Microwave door handles and buttons/keypads
- Table tops
- Vending machine buttons
- Drinking fountain
- Time clock buttons
- Handrails
- Telephones
- Elevator call and operating buttons
- Counters
- Patron desks

List and describe other items:

Extra time needed on route for disinfection:

Hours Tenths

Supervisor/Postmaster Signature: _____

This form is to be used as a management tool to document additional time needed for a headquarters mandated directive, not as a custodial scheduling form. It is available on the MTSC Clean web site at: <http://www.mtsc.usps.gov/equipment/clean/>

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ATTACHMENT 6**STEPS INDIVIDUALS SHOULD PERFORM TO REDUCE CONTACT
WITH CONTAMINATED SURFACES**

The Centers for Disease Control and Prevention (CDC) recommends hand hygiene as the single most important practice to reduce the spread of disease, including influenza, and as an essential element of standard precautions. The term “hand hygiene,” as used by the CDC, includes both hand washing with soap and water, and use of alcohol-based products (sprays, gels, rinses, foams) containing an emollient that does not require the use of water.

Anti-bacterial hand washing products do not offer an advantage over ordinary soap and water. In fact, the relatively harsh detergent action of antibacterial soaps leaves you vulnerable to open sores that can attract bacteria. Use of antibacterial soap is worse than frequent use of other soaps as chemicals in the detergents strip away the naturally protective fats and oils on the skin,

Recommendations for “respiratory hygiene/cough etiquette,” such as covering one’s mouth when coughing and avoiding spitting, are frequently cited as important measures to prevent transmission of influenza. The benefit of wearing masks in workplace settings has not been established. However, the current policy on use of filtering face pieces remains in affect.

Employees should be cautioned not to place their hands in trash cans, as they may contain items such as tissues which may be contaminated. Employees such as custodians, who are required to come in contact with trash cans, should wear gloves, wash their hands frequently and avoid contacting their face with their hands.

During an influenza pandemic, employees may feel the need for more frequent hand washing and/or disinfection of work surfaces. Management should accommodate this need by providing disinfectant wipes and hand sanitizer products in or near the work area. Replacement stock for these items should be readily accessible to employees.

The recommended disinfectant wipes listed in Attachment 2 are suitable for wiping telephones, keyboards, desks, counters and other common surfaces. They should also be safe for wiping the surfaces of mail processing equipment, including control panels. Disinfectant wipes and bleach solution must not be used on belts or belting. Bleach solution must not be used on painted or bare metal parts; it must not be sprayed into keyboards, control panels or electrical enclosures.

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ATTACHMENT 7

RESOURCES AND LINKS FOR ADDITIONAL INFORMATION

MTSC Clean

<http://www.mtsc.usps.gov/equipment/clean/>

USPS Safety Resource Page

http://safetytoolkit.usps.gov/toolkitweb/hr_dev/tk1_3/home_pg/safety_and_health.htm

CDC - Influenza (Flu) Avian Flu

<http://www.cdc.gov/flu/avian/index.htm>

HHS Pandemic Flu Page

<http://www.pandemicflu.gov/>

White House Pandemic Flu Page

<http://www.whitehouse.gov/infocus/pandemicflu/>

EPA Pesticide (viruscide)

<http://www.epa.gov/pesticides/pestlabels/>

USDA Avian Influenza

http://www.usda.gov/wps/portal/usdahome?navtype=SU&navid=AVIAN_INFLUENZA

WHO Guidelines, recommendations, descriptions

http://www.who.int/csr/disease/avian_influenza/guidelines/en/

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