

Association Standard

T/HW

T/HW 00020—2020

**Guidelines for emergency response in environmental
sanitation industry during major epidemic period
(Trial)
*(English Translation)***

Issue date: 2020-10-14

Implementation date: 2020-11-01

Issued by China Association of Urban Environmental Sanitation

Association Standard

Guidelines for emergency response in environmental sanitation industry during major epidemic period (Trial)

T/HW 00020—2020

Approval Department: China Association of Urban Environmental
Sanitation

Implementation date: 2020-11-01

Standards Press of China

2021 Beijing

**China Association of Urban Environmental Sanitation
Announcement**

No. 20

Announcement of China Association of Urban Environmental
Sanitation on the Publication of the Association Standard
*Guidelines for emergency response in environmental sanitation
industry during major epidemic period (Trial)*

*Guidelines for emergency response in environmental sanitation
industry during major epidemic period (Trial)* has been approved as
association standard with a serial number of T/HW 00020—2020, and the
implementation date is 2020-11-01.

This standard is compiled under the authorization of the
Standardization Technical Committee of our association and published by
China Standards Press.

China Association of Urban Environmental Sanitation

2020-10-14

Foreword

During the COVID-19 epidemic period, China's sanitation departments have strengthened the safety protection of environmental sanitation personal, performed well in sweeping and cleaning, guaranteed the safe and stable operation of environmental sanitation facilities, and regulated the disposal, collection, transportation and treatment of domestic waste. Rich experience in the effective prevention and control of the epidemic has been accumulated. Based on China's experience in the protection of environmental sanitation personal and the safe operation of sanitation facilities during the COVID-19 epidemic period and extensive consultations, China Urban Construction Design & Research Institute CO., LTD. and other institutions edited Guidelines for emergency response in environmental sanitation industry during major epidemic period (Trial) to prepare for similar major epidemic period in the future.

This standard comprises 11 chapters with the main contents as follows: 1. General provisions; 2. Terms; 3. Basic Requirements; 4. Protection Requirements; 5. Sweeping and

Cleaning; 6. Cleaning and Sanitation Management of Public Toilet; 7. Disposal, Collection and Transportation of MSW; 8. Collection and Transportation of Fecal Waste; 9. Collection and Transportation of Food Waste; 10. Operation and Management of MSW and Fecal Waste Treatment Facilities.

China Urban Construction Design & Research Institute CO., LTD. is responsible for the explanation of specific technical contents. All relevant organizations are kindly requested to sum up and accumulate your experiences in actual practices during the process of implementing this code. The relevant opinions and advice, whenever necessary, can be posted or passed on to China Urban Construction Design & Research Institute CO., LTD. (Address: NO. 36 Deshengmenwai Street, Xicheng District, Beijing; Postcode: 100120).

The standard is applicable to the protection of environmental sanitation personnel, as well as the operation and supervision of environmental sanitation facilities during the major epidemic period.

Chief Development Organization:

China Urban Construction Design & Research Institute CO., LTD.

Second Development Organization:

Tsinghua University

Participating Development Organizations:

Tongji University

Wuhan Urban Management Technology Research Center

Huazhong University of Science and Technology

Guangdong Environmental Sanitation Association

Chief Drafters:

Jingmin Wang Tao Liu Lixin Zhai Haiwen Deng

Gang Chen Yuan Yao Jianguo Liu Lin Tong

Haibin Chen Bo Zhang Bofen Shi Ruihuan Jian

Pinjing He Xiao Yu Xiaoping Fan Debin Lv

Hongyu Su Hui Cai Jian Wu Yulin Song

Fan Lv Shankun Chen Yi Luo Linying Wu

Hua Zhang Zhuoge Li Chao Geng Huanheng Zhang

Chao Chen Shen Gong Guang Hong Man Zhang

Chief Reviewers:

Wenlong Xu Yongfeng Nie Wenwei Wu Jinghao Liu

Aihua Zhao Liang He Bin Yang Siming Liu

Sheng He Jiaqi Wang

Contents

1 General Provisions	1
2 Terms	3
3 Basic Requirements	5
4 Protection Requirements	7
5 Sweeping and Cleaning	15
6 Cleaning and Sanitation Management of Public Toilet	17
7 Disposal, Collection and Transportation of MSW.....	19
8 Collection and Transportation of Fecal Waste.....	24
9 Collection and Transportation of Food Waste.....	26
10 Operation and Management of MSW and Fecal Waste Treatment Facilities	27
Appendix A	36
Basic Requirement for Preventive Disinfection of Common Environmental Sanitation Facilities.....	36
Appendix B	49
Technical Requirements for Protective Equipment.....	49

1 General Provisions

1.0.1 The present standard is hereby formulated for the purposes of implementing the guiding principles proclaimed by the CPC Central Committee on epidemic prevention and control, strengthening the implementation of epidemic prevention and control measures on environmental sanitation facilities, reducing the risks of dissemination of pathogens, safeguarding the health of environmental sanitation personnel and guaranteeing the safe and stable operation of environmental sanitation facilities.

1.0.2 This standard is applicable to the protection of environmental sanitation personnel, as well as the operation and supervision of environmental sanitation facilities during major epidemic period.

1.0.3 During the epidemic period, the operation and supervision of environmental sanitation facilities shall not only be in accordance with this standard, but also comply with national and provincial standards and regulations.

1.0.4 This standard only stipulates the basic requirements for the response to epidemic emergency. It shall be adjusted to the contagion risks, transmission routes and disease pathogenesis. It shall also be adjusted to the regulations formulated by national health administrations, disease

control and prevention organizations and other relevant departments during major epidemic period.

2 Terms

2.0.1 Major Epidemic Period

An infectious disease that spreads to a large scale in a short period of time. There is a large number of infections or deaths. The incidence rate of the disease far exceeds the previous ones on annual level.

2.0.2 Medical Observation Point for Home Quarantine

An accommodation where people are required to be home quarantined for medical observation and epidemic containment.

2.0.3 Medical Observation Point for Centralized Quarantine

The designated facilities where the confirmed, the asymptomatic and the close contacts of suspected cases are quarantined for centralized medical observation and epidemic containment.

2.0.4 Primary Quarantine Point

The designated places, except for the medical institutions, where infectious patients with mild symptoms are treated, such as motels, hotels and hostels whose condition met with quarantine protocols.

2.0.5 Infectious Focus

Places where the causative agent of the infection exists or existed, and the areas where the causative agent could possibly transmit.

2.0.6 Environmental Sanitation Personnel

Workers responsible for the sanitation of public areas such as urban roads, squares, and bridges, performing not limit to sweeping, cleaning, emptying fecal sludge, collecting and transporting waste, as well as handling, operating and managing of environmental sanitation facilities.

2.0.7 Environmental Sanitation Facilities

The generic term of facilities for cleaning, waste and fecal sludge collection, transportation and treatment, including environmental sanitation public facilities and environmental sanitation engineering facilities.

2.0.8 Environmental Sanitation Public Facilities

Facilities such as waste collection points, garbage bins and public toilets that are accessible to the public. They are often installed in public areas and other places where public activities frequently take place.

2.0.9 Environmental Sanitation Engineering Facilities

Facilities used for collection, transportation, transfer, treatment, comprehensive utilization and disposal of different wastes such as household waste, fecal sludge, construction waste and food waste, including waste collection stations, waste transfer stations, waste and fecal sludge transfer wharf, waters cleaning facilities, waste treatment facilities, etc.

3 Basic Requirements

3.0.1 Operational and administrative entities of environmental sanitation facilities shall formulate and implement a contingency plan effectively for the major epidemic emergency.

3.0.2 During major epidemic period, the environmental sanitation operation shall comply with the principle of controlling the source of infection and cutting off the chain of infection. Protection of workers shall be strengthened, and operating processes shall be standardized. Mechanical operations shall be increased, and manual work shall be reduced.

3.0.3 During major epidemic period, environmental sanitation operators shall receive a training of minimum 4 hours on epidemic safety protection, which shall include warnings of epidemic danger, requirements of epidemic containment, requirements of personal protection, operating protocols, etc.

3.0.4 During major epidemic period, waste-collecting containers shall be installed properly, disinfected scientifically, and cleared away in time. Environmental sanitation personnel and scavenger shall not be allowed to scavenge the waste.

3.0.5 During major epidemic period, repairing and maintenance of

environmental sanitation facilities shall be enhanced. Spare parts and consumable goods for production shall be adequately stocked to ensure the normal operation of facilities.

3.0.6 All types of wastes at primary quarantine points shall be managed and disposed as medical waste. Household waste at medical observation points for centralized quarantine and home quarantine shall be sorted and disposed in accordance with regulations. Those regulated as medical waste shall be managed as medical waste.

3.0.7 Designated containers with lids shall be installed in the major and densely populated public areas for collecting discarded masks and other protective equipment. The container should be covered with a plastic bag inside. The surface of plastic bag and container shall be disinfected by spraying chlorine-based disinfectant containing 500mg/L active chlorine after clear-away. The discarded waste shall be transported to waste incineration facilities for disposal by designated vehicles and dedicated personnel.

4 Protection Requirements

4.1 Protection Requirements of environmental sanitation facilities

4.1.1 The entities, which are in charge of the management and operation of environmental sanitation facilities, shall establish an epidemic prevention and control management system under the guidance of the health and epidemic prevention departments and the competent departments, and provide trainings on infectious disease prevention as well as operation safety for environmental sanitation personnel.

4.1.2 Anti-epidemic emergency supplies shall be kept in reserve for no less than 10-day use at environmental sanitation facilities. Anti-epidemic supplies shall be strictly updated according to the expiry dates.

4.1.3 Environmental sanitation management institutions shall establish and improve the supervision and assessment system for environmental sanitation operations during the epidemic period.

4.2 Protection requirements for environmental sanitation personnel

4.2.1 Environmental sanitation personnel shall monitor and report their personal health status on a daily basis. Workers who possess health risk shall not be on duty.

4.2.2 Workers shall wear protective equipment appropriately before work, and shall not take off protective equipment during the break. Protective

equipment shall be provided according to the exposure risks, which can be classified into four levels: high risk, relative high risk, medium risk and lower risk. The details are shown in table 4.2.1.

Table 4.2.1 Environmental sanitation personnel exposure risk levels

Risk level	Environmental sanitation personnel
High risk	Environmental sanitation personnel directly participated in the collection, transportation, loading and unloading, treatment and disposal, cleaning and disinfection of household waste, food waste, fecal sludge and medical waste at the primary quarantine point.
Relative High risk	Environmental sanitation personnel directly participated in the collection, transportation, loading and unloading, treatment, disposal and disinfection of medical waste, household waste, food waste and fecal sludge at medical observation points for centralized quarantine and home quarantine, as well as environmental sanitation personnel responsible for sweeping and cleaning at medical observation points for home quarantine.
Medium risk	Environmental sanitation personnel directly participated in the collection, transportation, loading and unloading, treatment and disposal, cleaning and disinfection of household waste, food waste and fecal sludge in non-quarantine areas, as well as environmental sanitation personnel working at environmental sanitation facilities (such as operators, maintenance workers, inspectors and

Risk level	Environmental sanitation personnel
	disinfection workers).
Lower risk	Environmental sanitation personnel performing sweeping and cleaning at non-quarantine points, as well as environmental sanitation personnel working at environmental sanitation facilities including office staff, managers and the support crew (such as canteen and cleaning).

4.2.3 The appropriate provision of protective equipment for workers at different exposure risk levels is shown in table 4.2.2.

Table 4.2.2 The provision of protective equipment for workers at different exposure risk levels

	High risk	Relative high risk	Medium risk	Lower risk
Masks	Medical protective masks (in case of shortage, particulate protective masks of grade N95/KN95 and above, and self-priming filter respirators with particulate cotton filters of grade N95/KN95 and above can be selected)	Particulate protective masks of grade N95/KN95 and above, self-priming filter respirators (full face or half face) with particulate cotton filters of grade N95/KN95 and above	Particulate protective masks of grade N90/KN90 and above, self-priming filter respirators (full face or half face) with particulate cotton filter of grade N90/KN90 and above (surgical masks can be used in case of shortage)	Surgical masks

	High risk	Relative high risk	Medium risk	Lower risk
Caps	Disposable working caps	Disposable working caps	Working caps	No specific requirements
Clothing	Medical protective clothing	Industrial protective clothing	Easy-cleaning working clothes	Easy-cleaning working clothes
Gloves	Protective gloves	Protective gloves	Protective gloves	No specific requirements
Goggles	Medical protective glasses or chemical protective goggles	Medical protective glasses or chemical protective goggles	Medical protective glasses or chemical protective goggles	No specific requirements
Boots	Rubber boots	Rubber boots	Rubber boots	No specific requirements

Note: The provision of personal protective equipment shall not be lower than the minimum standards of national and local epidemic prevention and control requirements. Refer to Appendix B for the use of protective equipment.

4.2.4 Environmental sanitation personnel shall be equipped with a certain number of protective equipment, such as masks, based on the working time, and replace them promptly as required. The protective equipment shall not be taken off during the working time.

4.2.5 Environmental sanitation personnel shall pay attention to maintaining personal hygiene, and not touch eyes, mouth, as well as nose with hands. Personal items such as drinking glasses, lunch boxes, mobile phones, shall be cleaned, disinfected, and protected.

4.2.6 The personnel protection distance shall be ensured. Meal and rest periods shall be properly arranged at different time.

4.2.7 Cleaning and disinfection shall be carried out in time, and workers shall rinse their bodies and disinfect their hands after work. The workers shall change into clean clothes and take protective measures before leaving. Discarded protective equipment shall be separately collected and disposed in accordance with the requirements of 3.0.7.

4.2.8 After the daily work, the reusable protective equipment shall be cleaned and disinfected. The disinfection requirements shall comply with the relevant regulations of the health and epidemic prevention departments.

5 Sweeping and Cleaning

5.1 Sweeping and cleaning in non- quarantine area

5.1.1 According to the requirements of current national standards and specifications, urban roads shall be well swept and cleaned. Mechanized cleaning shall be strengthened while manual cleaning shall be reduced. Appropriately improve the cleaning of the cruise, Waste containers on both sides of the road shall be emptied and cleaned in time.

5.1.2 Sweeping and cleaning in the key areas with high population density such as hospitals, supermarkets, markets, railway stations, passenger stations and docks shall be strengthened. Necessary points shall be disinfected under the guidance of local health departments.

5.1.3 The operation specification of sweeping and cleaning in urban public areas during the epidemic period shall be improved. The protective measures for environmental sanitation personnel shall be refined.

5.1.4 Vehicles, equipment and operation tools shall be disinfected before and after operations and logged during the epidemic period.

5.2 Sweeping and cleaning in Primary Quarantine Point and Medical Observation Point for Centralized Quarantine

5.2.1 Sweeping and cleaning of the primary quarantine point and medical observation point for centralized quarantine shall be subject to the

management of the local health departments.

5.2.2 Sweeping and cleaning shall be carried out by trained personnel.

The sweeping and cleaning system of local hospitals shall be implemented.

6 Cleaning and Sanitation Management of Public Toilet

6.0.1 During the epidemic period, before the public toilet is opened to the public, the manager shall check whether the facilities and equipment are in normal operation, whether the sewer is unobstructed, whether the hand sanitizer and other convenience service supplies are complete. In addition to routine sanitation, the public toilet shall also be disinfected in accordance with appendix A.

6.0.2 The public toilet shall be kept normal-ventilated. The fresh air system and other ventilation equipment shall be in normal operation, and the ventilation air volume and air change rate shall comply with relevant provisions of current industry standard *Standard for design of urban public toilets CJJ14*.

6.0.3 All toilets and sanitary wares, various handrails and handles, sanitation tools, contact flush buttons, faucets and sinks, hand sanitizer boxes, toilet paper boxes, waste paper bins and other key parts in public toilets shall be disinfected regularly. In high- and medium-risk areas, the disinfection frequency shall be increased, and relevant records of disinfecting shall be made.

6.0.4 The manager of public toilets shall strengthen the patrol inspection on each toilet, clean the waste paper in time, and ensure that the inside

and outside of the toilet are clean and there is no residue of faeces and urine.

6.0.5 The places with obvious dirt shall be cleaned in time and disinfected with chlorine disinfectant containing 200mg/L effective chlorine.

6.0.6 The waste paper bin in the toilet shall be covered with plastic bags, and all waste in the waste paper bin shall be tightly packed after strict disinfection.

6.0.7 Before closing the public toilet, the public toilet shall be fully disinfected again after completing the routine sanitation, and disinfectant and hand sanitizer shall be refilled.

6.0.8 When the sewage pipe of the public toilet is blocked or the faeces is overflowing, the use of the public toilet shall be suspended immediately, and the public toilet shall be unclogged, cleaned, and disinfected in time. If the sewage pipe is seriously clogged, it shall be reported for repair in time and repaired within 24 hours.

6.0.9 The manager shall guide the users entering into toilet based on the actual situation. When queuing occurs, outdoor queuing should be handled in time, and a certain interval should be guaranteed. It is required that the users must wear masks and always be reminded to wash their hands in time.

7 Disposal, Collection and Transportation of MSW

7.1 Non-Quarantine Areas

7.1.1 The waste in waste bins, trash cans, and waste collection points (stations) shall not be collected less than 2 times a day. The collection areas with a large amount of waste shall be transported as soon as waste collection bins or points are full. Waste collection containers shall be cleaned and disinfected at the same time.

7.1.2 Irrelevant personnel shall be prohibited from entering the waste collection and transportation operation areas. After the operation is completed, the waste spillage shall be cleaned up in time. The operation area shall be disinfected with chlorine-based disinfectant containing active chlorine of 500mg/L~1000mg/L.

7.1.3 The transportation process of operation vehicles shall be sealed. After each operation is completed, the vehicles shall be disinfected with chlorine-based disinfectant containing active chlorine of 500mg/L~1000mg/L. The spray amount shall be 100mL/m²~300mL/m².

7.1.4 The used environmental sanitation tools and the areas with obvious pollution shall be cleaned first. Then they shall be sprayed chlorine-based disinfectant containing active chlorine of 500mg/L~1000mg/L to disinfect. The spray amount shall be 100mL/m²~300mL/m². When the

contaminated surface is small, the area can be wiped to disinfect using a cloth soaked with disinfectant or disinfectant wipes.

7.1.5 The equipment shall be kept sealing in transfer stations. Manual sorting shall be suspended. It is not advisable to open the cover or sealing cover of each equipment. For maintenance and observation, necessary personal protective measures shall be taken.

7.1.6 The key protection areas in transfer stations, the surfaces or sites frequently contacted by the workers, the transportation vehicles and the operation tools shall be disinfected.

7.2 Medical Observation Points for Centralized Quarantine or Medical Observation Points for Home Quarantine

7.2.1 During the epidemic prevention and control period, medical observation points for centralized quarantine or medical observation points home quarantine shall suspend the classification of municipal solid waste. All the generated domestic waste (including discarded masks, etc.) shall be stored in airtight bags. Medical waste shall be managed in accordance with relevant national regulations.

7.2.2 Medical observation points for centralized quarantine or medical observation points for home quarantine shall adopt fixed-point collection measure for domestic waste.

7.2.3 The domestic waste of the quarantined personnel shall use special waste bags. The load shall not exceed 3/4 of the bag capacity and the layered sealing shall be used with effective sealing method such as the goose-neck knot seal method. Labels shall be attached or pasted on the outside of the waste bags. The content of the label shall at least include name of the community, the house number, the date of production and so on.

7.2.4 The quarantined personnel can place the generated waste in front of the door according to the required time and it shall be collected by the professional workers.

7.2.5 Workers going from door to door for collecting waste shall wear masks, gloves, protective glasses, work shoes and one-piece protective clothing. When collecting, chlorine-based disinfectant containing active chlorine of 500mg/L~1000mg/L should be sprayed for disinfection on the surface of waste bags. Then workers shall coat them with new waste bags to prevent the body from directly contacting the waste. When using elevators, plastic wrap or paper towels shall be used to isolate the contact part. Otherwise, the contact parts in elevators shall be wiped for disinfect with quaternary ammonium salt disinfectant of 1000mg/L or alcohol solution of 75% after use.

7.2.6 The domestic waste generated in medical observation points for centralized quarantine or medical observation points for home quarantine shall be collected by specialized personnel and vehicles. The collection and transportation accounts shall be carefully recorded. When working, non-operating personnel are prohibited from approaching to vehicles.

7.2.7 After collection, the waste collection points and the surrounding areas of the operation site shall be disinfected. The lids of waste bins and the surrounding area shall be disinfected by chlorine-based disinfectant containing active chlorine of 500mg/L~1000mg/L. The spray amount shall be 100mL/m²~300mL/ m².

7.2.8 Before transportation, the condition of the vehicles shall be checked to ensure that the vehicles shall be kept airtight and clean without obvious dirt, dripping, towing, or scattering.

7.2.9 After completing once loading or unloading operation, the vehicle shall be cleaned and disinfected.

7.2.10 The domestic waste generated in medical observation points for centralized quarantine or medical observation points for home quarantine shall be transported directly into the treatment facilities.

7.3 Primary Quarantine Points or Infectious Focuses

The domestic waste generated in primary quarantine points or infectious

focuses shall be managed as medical waste.

7.4 Designated hospitals

The domestic waste generated in designated hospitals shall be managed strictly as medical waste during the epidemic period.

8 Collection and Transportation of Fecal Waste

8.1 Non-Quarantine Area

8.1.1 During the epidemic, the frequency of septic tank emptying shall be reduced. Manual emptying shall not be carried out unless necessary.

8.1.2 The suction truck shall be cleaned and disinfected in accordance with relevant regulations after each shift. The tightness shall be strictly checked to ensure that there is no fecal leakage during transportation. There shall be no residue in the suction hoses during transportation.

8.1.3 The discharge time shall be shortened on the premise of ensuring the safety of the operation in the fecal sludge treatment station. Unloading shall be carried out one time in order. Care shall be taken while discharging. If there is any spillage, it shall be cleaned and disinfected promptly. After discharging, the valves shall be closed and inspected to ensure that the hoses and valves are free of residue.

8.1.4 Before and after the operation, the areas that may be contaminated with fecal sludge, such as manhole cover and its surroundings, fecal sludge feeding openings, suction hoses, manure rake, etc.) shall be cleaned up and disinfected in time. Chlorine-based disinfectant containing the concentration of active chlorine from 500mg/L to 1000mg/L shall be used. The spray volume should be within the range of 100mL/m²

~300mL/m² .

8.2 Medical Observation Point for Centralized Quarantine or Medical Observation Point for Home Quarantine

8.2.1 Empty the manure tank and manually empty it when it is not necessary. If necessary, they should comply with the relevant provisions of the current national standard ‘Discharge Standard of Water Pollutant(GB 1846)’ for Medical organizations . Septic tank sludge shall be treated as hazardous waste.

8.2.2 Operators and vehicles shall be strictly distinguished from those in non-quarantine areas.

9 Collection and Transportation of Food Waste

9.0.1 Vehicles collecting food waste, oil and fat waste shall be sealed. Any leakage of wastewater and grease that could contaminate the vehicle body and the ground shall be avoided. The vehicles shall be disinfected when leaving the depot, as well as before and after each collection and transportation work. Collecting vehicles shall be driven strictly according to the designated transportation routes, and avoid infectious focuses, isolation areas, traffic-congested regions as well as the traffic peak time.

9.0.2 Only operating workers are allowed to approach waste while arriving at the workplace. Waste containers, workplaces and collecting vehicles shall be cleaned and disinfected immediately with chlorine-based disinfectant containing 500mg/L ~1000mg/L active chlorine after collection and transportation work. The spray amount is 100 mL/m²~300mL/m².

9.0.3 During epidemic period, the food waste at the designated medical institutions, primary quarantine points and medical observation points for centralized quarantine shall be managed as medical waste, not usual food waste.

10 Operation and Management of MSW and Fecal Waste Treatment Facilities

10.1 General Regulations

10.1.1 The facility operating organizations shall actively cooperate with the supervision and management of the health and environment departments. They also shall keep the data, videos and other necessary information required for the supervision.

10.1.2 Domestic waste from the epidemic quarantine areas shall be recorded and counted separately when transported in and out of various treatment facilities. All of the waste entering the plant (station) shall be measured according to the requirements of relevant departments and submitted for reference according to relevant requirements.

10.1.3 Corresponding marking, signals, words and other relevant and warning signs shall be set in the treatment facilities workplace(-plant) to guide waste transportation vehicles to enter and exit orderly and to prevent irrelevant personnel from entering the relevant places.

10.1.4 During the epidemic period, all visit, study and investigation activities shall be suspended.

10.1.5 All the personnel in the vehicles shall receive health checks when vehicles enter any kind of treatment facilities.

10.1.6 All kinds of treatment facilities shall be disinfected during the operation period. The disinfection location, selection of disinfectant, disinfection method and disinfection frequency shall be implemented according to the Appendix A of this standard.

10.2 Landfill site

10.2.1 During the epidemic prevention and control period, disinfection, operation management and personnel protection shall be strengthened in domestic waste landfills. Special personnel shall be arranged to clean and disinfect cleaning routes at least twice a day.

10.2.2 Vehicles shall be strictly managed when entering the landfill site. Unregistered vehicles shall not enter the landfill site.

10.2.3 If it is really necessary to carry out the landfill operation of the domestic waste from medical observation points for centralized or home quarantine, independent landfill units shall be set up and only designated special personnel shall carry out the landfill operation of it. Besides, all operations shall be carried out in accordance with the relevant requirements of the local government.

10.2.4 When tipping, the personnel in vehicle shall not get off. After tipping, chlorine disinfectant containing active chlorine of 500mg/L~1000mg/L shall be sprayed to working surface for disinfection.

Then the working surface shall be covered by soil and compacted. The coverage rate shall reach 100%.

10.2.5 The facilities, vehicles and areas with personnel flow shall be disinfected every day. Vehicles and machines operated in the field shall be disinfected when enter and return using chlorine disinfectant containing active chlorine of 500mg/L~1000mg/L. The spraying dose of the disinfectant shall be 100mL/m² ~300mL/m².

10.2.6 The operations of construction waste treatment sites can refer to this standard.

10.3 Waste incineration Plant

10.3.1 Vehicles entering the waste incineration plant shall be strictly controlled. Vehicles without registration shall not enter the plant. All waste entering the plant shall be weighed by weighbridge as required. The measurement data, waste transportation vehicle, waste source, waste type, time of entering and leaving the plant and other information should be recorded and archived in details, which shall be submitted in accordance with relevant regulations.

10.3.2 Vehicles transporting domestic waste from medical observation point for centralized quarantine and medical observation point for home quarantine shall be reported in advance, and enter the plant at the

specified time. When entering the plant, source and type of waste should be provided and retained by the waste incineration plant.

10.3.3 Before entering the plant (before weighing), vehicles transporting domestic waste from medical observation point for centralized quarantine and medical observation point for home quarantine need to be disinfected. All waste-collecting vehicles need to be disinfected before leaving the plant after unloading in the tipping hall. Chlorine-based disinfectant containing the concentration of active chlorine from 500mg/L to 1000mg/L shall be used. The spray volume should be within the range of 100mL/m²~300mL/m².

10.3.4 In exposed areas such as the tipping hall and the waste bunker, operators should wear protective equipment in accordance with the higher risk levels in Table 5.2-2. The tipping hall and waste bunker should be enclosed entirely and controlled when the pressure is lower than atmospheric pressure.

10.3.5 Waste collection vehicles shall discharge in the designated area according to the prescribed route in order. Domestic waste from medical observation point for centralized quarantine and medical observation point for home quarantine shall be discharged at the designated tipping gate. After unloading, the area should be disinfected immediately. The

operator shall immediately clean up the garbage that fell on the ground during the unloading process. The tipping hall shall be disinfected at least twice a day. Chlorine-based disinfectant containing the concentration of active chlorine from 500mg/L to 1000mg/L shall be used. The spray volume should be within the range of 100mL/m²~300mL/m².

10.3.6 During the epidemic period, works that may cause infections such as detection of elemental composition, calorific value and leachate should not be operated. The frequency of the routine maintenance of waste crane shall be appropriately reduced according to the usage of the crane. When performing necessary work such as eliminating defects in waste crane, operators should wear protective equipment in accordance with the higher risk levels in Table 5.2.3. After work, operators should conduct self-clean and self-disinfection, as while as clean and disinfect the working tools.

10.3.7 Domestic waste from medical observation point for centralized quarantine and medical observation point for home quarantine shall be introduced directly into the furnace and be treated within the same day.

10.3.8 When the waste incineration plant undertakes the emergency treatment of medical waste during the epidemic period, the following works should be done:

- 1 The waste incineration plant shall do a good job in health and epidemic

prevention as well as pollution prevention and control under the guidance of the national health administrations and ecology and environment authorities.

2 Special tipping areas, cleaning and disinfection areas shall be designated for medical wastes, which should be water-resistant and leak-resistant. Special transporting routes should be planned for medical waste collection vehicles, and dedicated personnel should be assigned to supervise.

3 Warnings and cordons shall be set up at the receiving site.

4 Medical waste is fed from the storage area into the furnace by a special feeding system.

5 Medical waste shall be timely disposed in the waste incineration plant.

6 The feed ratio of medical waste and domestic waste shall be well prepared to keep the operation of incineration process equipment stable and controllable.

7 Operators shall receive relevant technical training.

8 The waste incineration plant shall prepare the emergency plan to deal with epidemic prevention and control.

10.4 Food Waste Treatment Plant

10.4.1 Vehicles collecting food waste, oil and fat waste shall be

disinfected after unloading. Records shall be made based on the waste source as required. Each collection area should be responsible by dedicated vehicles and personnel.

10.4.2 When the amount of food waste generating and collecting is small during the epidemic period, the food waste can be directly incinerated in a waste incineration plant. The working condition, of which adopting the biological treatment process, shall be adjusted in time to ensure the stable operation of the facility.

10.4.3 The equipment shall be enclosed and box cover or sealing cover should not be opened throughout the handling operations in food waste treatment plant under normal operation. Manual sorting process shall be suspended. For maintenance and observation, necessary personnel protective measures should be taken. Parts that are prone to splashing of liquids or aerosols, such as feeding openings and access openings, shall be disinfected particularly.

10.5 Fecal sludge treatment (plant) station

10.5.1 Equipment shall be enclosed and the covers should not be opened throughout the handling operations. For maintenance and observation, necessary personnel protective measures should be taken. Parts that are prone to splashing of liquids or aerosols, such as fecal sludge feeding

openings and access openings, shall be disinfected particularly.

10.5.2 When fecal sludge treatment does not adopt biochemical treatment process, a disinfectant dosing device should be installed in the grit chamber or storage-regulating pond. If fecal sludge treatment adopts the biochemical treatment, a disinfectant dosing device should be set up in the regulating pond or contact tank after the biochemical section. Chlorine disinfectant should be used in the disinfection process, the disinfection contact time should exceed 1h, and the total residual chlorine at the outlet of the contact tank should be 3mg/L~10mg/L.

10.5.3 Chlorine disinfectant containing active chlorine of 500mg/L~1000mg/L should be used for disinfection after rinsing of equipment and workshop.

10.5.4 Solid-liquid separation and flocculation-dehydration-slag discharging and collecting equipment should be fully enclosed. The surface and surrounding of containers receiving solid slag should be disinfected regularly. The Atomization device should be used for automatic disinfection. The disinfection frequency should not be less than twice a day.

10.5.5 During the epidemic prevention and control period, the residue and sludge from the fecal sludge treatment station should not be composted,

but incinerated.

Appendix A

Basic Requirement for Preventive Disinfection of Common Environmental Sanitation Facilities

A. 0. 1 Preventive disinfection of common environmental sanitation facilities shall comply with Table

A. 0. 1.

Table A. 0. 1 Basic Requirement for Preventive Disinfection of Common Environmental Sanitation Facilities

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
Cleaning and sanitizing (non-quarantine zone)	electric appliance, other operation tools,	500~1000mg/L chlorine-based	spray with disinfectant	before and after each

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
	rest areas for sanitation workers	disinfectant	sprayers; amount: 100~300mL/m ²	operation
	points of direct contact: vehicle seats, doorknobs, etc.	500~1000mg/L chlorine-based disinfectant	wipe with disinfecting wet tissue/cloths, effective duration: 30min	before and after each operation
Public Toilets	priority: all types of sanitary wares,	500~1000mg/L chlorine-based	wipe with disinfecting wet	no less than twice per

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
	handrails and handles, cleaning tools, contact flush switches, faucets, sinks, soap dispenser containers, tissue boxes, wastepaper baskets	disinfectant or 100~250mg/L chlorine dioxide-based disinfectant	tissue/cloths, effective duration: 30min	day
	entire public toilet	500~1000mg/L	spraying,	no less than

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
	floor	chlorine-based disinfectant or 100~250mg/L chlorine dioxide-based disinfectant	amount: 100~300mL/m ²	twice per day
Waste collection and transportation (non-quarantine zone)	Waste container lids and operation areas, environmental operating tools and	500~1000mg/L chlorine-based disinfectant	spraying, amount: 100~300mL/m ²	once, after each operation

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
	operation areas that has been evidently contaminated			
Waste collection and transportation (Medical observation Point for centralized quarantine and for home quarantine)	garbage bag/packaging surfaces	500~1000mg/L chlorine-based disinfectant	spraying, amount: 100~300mL/m ²	once, after each operation
	within 2~3m around waste collection points and operation	500~1000mg/L chlorine-based disinfectant	spraying, amount: 100~300mL/m ²	once, after each operation

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
	sites			
Human waste collection and transportation	manhole covers and surroundings, fecal matter disposal openings, fecal sludge extraction tubes, manure rakes	500~1000mg/L chlorine-based disinfectant	spraying, amount: 100~300mL/m ²	once, before and after each operation
Food waste collection and transportation	waste collection bins, collection points and	500~1000mg/L chlorine-based	spraying, amount:	after operation

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
	collection vehicles	disinfectant	100~300mL/m ²	
Environmental sanitation vehicles	drivers' cabs	500~1000mg/L chlorine-based disinfectant	spray with disinfectant sprayers; amount: 100~300mL/m ²	after each shift
	points of direct contact: vehicle seats, doorknobs, etc.	500~1000mg/L chlorine-based disinfectant	wipe with disinfectant-soaked dust cloth, effective duration:	after each shift

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
			30min, or spray with disinfectant sprayers	
Waste treatment facilities (waste transfer stations, food waste treatment plants, fecal sludge treatment	central control rooms, office, lounges, corridors for visitors, and other living/working areas	500~1000mg/L chlorine-based disinfectant	spray with disinfectant sprayers; amount: 100~300mL/m ²	once per 2~4h

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
plants, sanitation landfills, waste incineration plants)	points of direct contact specific to sanitation workers and management staff: seats, doorknobs, etc.	500~1000mg/L chlorine-based disinfectant, or 75% alcoholic solution (wipe to clean)	wipe with disinfectant-soaked dust cloth, effective duration: 30min, or spray with disinfectant sprayers	once per 2~4h

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
	elevator operating panels	1000mg/L quaternary ammonium salt-based disinfectant, or 75% alcoholic solution	wipe to disinfect	once per 2~4h
	truck scales, floors of waste unloading halls, unloading spouts, sewage collection ditches/sinks, trash	500~1000mg/L chlorine-based disinfectant	spraying, amount: 100~300mL/m ²	twice a day

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
	compactor cases			
	scattered wastes, areas with leachate spill	500~1000mg/L chlorine-based disinfectant	spraying, amount: 100~300mL/m ²	twice a day
Roads for waste collection/ transportation vehicles	areas with scattered wastes and leachate spill	500~1000mg/L chlorine-based disinfectant	spraying, amount: 100~300mL/m ²	twice a day
Sanitation landfill operation areas	waste operation areas (at medical observation points for centralized quarantine	500~1000mg/L chlorine-based	spraying, amount:	during each landfill

Category	Venue of Disinfection	Disinfectant & Concentration	Method & Specification	Frequency
	and for home quarantine)	disinfectant	100~300mL/m ²	operation

Note:

1. This guideline contains exclusively the requirements for the use of common chlorine-based disinfectants. The concentrations of chlorine-based disinfectant are quantified in terms of active chlorine. Other disinfection products such as chlorine dioxide, peroxyacetic acid, hydrogen peroxide and bromine-based disinfectants may also be used for the disinfection of outdoor environments. Quaternary ammonium salt-based disinfectants may be used for the disinfection of indoor sanitation tools or area/item surfaces. Consult product manual for specific usage.

2. Further information regarding safety, storage issues, and other specifications of disinfectants can be found in Supervision Letter (2020) No. 147 of General Office of National Health Commission of the People' s Republic of China (Guidelines for the Use of Disinfectants).
3. Alcohol-based disinfectants may only be used for the disinfection of small item surfaces such as seats, doorknobs, buttons, etc. It is recommended that only a moderate amount be safely stored and avoid mixing with other disinfectants.

Appendix B

Technical Requirements for Protective Equipment






B.0.1 The main performance of protective masks shall be in accordance with those specified in Table

B.0.2, and shall be in accordance with the following requirements:

1. Single-use medical face masks shall meet the requirements of the current industry standard *Single-Use Medical Face Mask YY/T 0969*;
2. Surgical masks shall meet the requirements of the current industry standard *Surgical Mask YY 0469*;
3. Protective face masks for medical use shall meet the requirements of the current national standard *Technical Requirements for Protective Face Mask for Medical Use GB 19083*;

4. Full-face non-powered air-purifying particle respirators shall meet the requirements of the current national standard *Respiratory Protection — Non-Powered Air-Purifying Particle Respirator GB 2626*.

Appendix B.0.2 Main performance requirements for commonly used protective masks

Types of mask	Single-use medical face mask	Surgical mask	KN90/N90 mask	KN95/N95 mask	Protective face mask for medical use
Sample pictures					
Product standard	YY/T 0969	YY 0469	GB 2626	GB 2626	GB 19083
Product certificatio n	Medical registrati on class I	Medical registration class I	LA certification for special labor protection	LA certification for special labor protection	Medical registration class II

Types of mask	Single-use medical face mask	Surgical mask	KN90/N90 mask	KN95/N95 mask	Protective face mask for medical use
			sample	sample	
Droplet isolation	×	√	√	√	√
Aerosol isolation	×	×	√	√	√
Liquid splash isolation	×	√	×	×	√
Filtration efficiency	The bacterial	The bacterial filtration	the filtration	the filtration efficiency of	When the gas flow rate is 85L/min,

Types of mask	Single-use medical face mask	Surgical mask	KN90/N90 mask	KN95/N95 mask	Protective face mask for medical use
	filtration efficiency of the mask should be $\geq 95\%$	efficiency of the mask should be $\geq 95\%$; the filtration efficiency of the mask for non-oily particulates should be $\geq 30\%$	efficiency of the mask for non-oily particulates should be $\geq 90\%$	the mask for non-oily particulates should be $\geq 95\%$	the filtering efficiency of the mask for non-oily particulates should be $\geq 95\%$



B.0.3 The main performance of protective clothing shall be in accordance with those specified in Table B.0.3, and shall be in accordance with the following requirements:

1 Single-use protective clothing for medical use shall meet the requirements of current group standard *Technical Specification For Classification and Performance of Protective Apparel and Surgical Drape T/CTES 1013*, and shall meet the requirements of current national standard *Technical Requirements for Single-Use Protective Clothing for Medical Use GB 19082*;

2 Emergency medical supplies protective clothing shall meet the requirements of *the National Health Office Medical Letter [2020] No. 98*.

Appendix B.0.3 Main performance requirements for commonly used protective clothing

Types of protective clothing	Medical Protective clothing	Protective clothing for industrial use
-------------------------------------	------------------------------------	---

Types of protective clothing	Medical Protective clothing	Protective clothing for industrial use
Legend		
Exterior	One-piece	Fully covered
Impermeability	Hydrostatic pressure of key parts $\geq 1.67\text{kpa}$	Fabric hydrostatic pressure $\geq 1.0\text{kpa}$
Filtration efficiency	Filtration efficiency for non-oily particulates $\geq 70\%$	Filtration efficiency for non-oily particulates $\geq 70\%$
Cleanliness-Microbiological Index	be in accordance with GB15979-2002	—

Types of protective clothing	Medical Protective clothing	Protective clothing for industrial use
Applicable personnel	Environmental Sanitation Personnel	Waste collection and transportation personnel; Front-line operators of terminal processing facilities.

B.0.4 Environmental Sanitation Personnel may choose latex gloves, rubber gloves or medical rubber examination gloves according to operation requirements. The latex gloves shall meet the requirements of the current industry standard *Latex Gloves EJ/T 22*. Rubber examination gloves shall meet the requirements of the current national standard *Single-Use Medical Rubber Examination Gloves GB 10213*. Rubber gloves shall meet the requirements of the current industry standard *Rubber Household Gloves HG/T 2888*.

B.0.5 Protective glasses/face shield shall meet the requirements of the current national standard *the Specifications for Personal Eye-Protectors GB 14866*.

B.0.6 The protective hood may be a disposable medical protective cap, and its performance requirements shall meet the requirements of the current industry standard *Single-Use Medical Protective Hood YY/T 1642*.

B.0.7 The protective shoes may be high rubber shoes or medical protective overboots. The high rubber shoes shall meet the requirements of the current national standard *Rubber Shoes Health and Safe Specifications GB 25038*. Medical protective overboots shall meet the requirements of the current industry standard *Single-use Medical Protective Overboot YY/*