

CODE OF PRACTICE FOR ENVIRONMENTAL CONTROL COORDINATORS



**Public Health Operational Policy Division
National Environment Agency (NEA)
Singapore**

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FOREWORD

Good sanitation and hygiene standards are our primary line of defence against environmental public health threats such as outbreaks of infectious diseases and pest infestations. To ensure that premises maintain high levels of cleanliness and hygiene, attention should be given to all areas in high-risk premises, from front-of-house to back-of-house areas.

To raise cleanliness standards of specified premises, the National Environment Agency implemented the Environmental Sanitation (ES) regime in phases from July 2021; it emphasises a co-regulatory approach with respective sector leads such as Ministry of Education, Ministry of Health, Singapore Food Agency etc, where sector-specific baseline ES standards are mandated for specified premises via an ES programme. Through the ES regime, we hope to instil a habit of proactive routine cleaning and thorough periodic cleaning by the Premises Manager (PM). Depending on the types of specified premises, the PMs will appoint an Environmental Control Coordinator (ECC) or Environmental Control Officer (ECO) to assist him/her in monitoring the implementation of the ES programme.

This Code of Practice for ECCs spells out their roles and that of the PMs, their responsibilities and what is expected from them. It also serves as a guide to ECCs for the development and execution of an ES programme for specified premises.

Reference has primarily been made to the Technical Guide for Environmental Sanitation for High-Risk Non-Healthcare Premises in Singapore as developed by the eponymous Technical Committee.

**Director-General of Public Health
National Environment Agency
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1. Introduction

- 1.1 Transmission of infectious diseases is exacerbated by poor environmental hygiene conditions, including from contaminated surfaces, air, food, water and vectors. To safeguard environmental public health, it is important to adopt good environmental sanitation practices i.e. good housekeeping, refuse and pest management, and ensure that the premises is thoroughly cleaned and disinfected after removing the potential source of infection. Good environmental sanitation reduces incidences of infectious disease transmissions within the community and safeguards the overall well-being of occupants of specified premises.
- 1.2 The Environmental Sanitation (ES) regime mandates minimum standards implemented by the Premises Manager (PM), supported by the Environmental Control Coordinator (ECC) or Environmental Control Officer (Specified Premises) [ECO(SP)]. While specified premises will generally require the appointment of an ECC, more complex premises will be required to appoint an ECO(SP).
- 1.3 This Code of Practice (COP) is intended to guide ECCs and PMs in implementing the Environmental Sanitation programme within their specified premises, in compliance with the Environmental Public Health Act 1987, and its associated subsidiary legislation.
- 1.4 Sections 3 to 7 of this COP are mandatory requirements.

2 Definitions

In this COP, unless otherwise specified:

- 2.1 “cleaning” means using water and detergent to physically remove dirt, impurities from surface or objects. Cleaning does not kill all infectious pathogens;
- 2.2 “code of practice” means any code of practice issued or approved under section 99A(1) of the Environmental Public Health Act 1987, and includes such a code of practice as amended from time to time;
- 2.3 “coffeeshop” means any food establishment licensed as a coffeeshop or an eating house under section 32 of the Environmental Public Health Act 1987;
- 2.4 “Director-General” means the Director-General of Public Health appointed under section 3(1) of the Environmental Public Health Act 1987;
- 2.5 “disinfection” means using disinfectants to kill infectious pathogens found in bodily discharge and on surfaces of objects. For a disinfectant to work properly, a dirty surface should first be cleaned with detergent and water;
- 2.6 “environmental control coordinator” means a person who will assist the premises manager in ensuring compliance to the environmental sanitation standards;

- 2.7 “environmental sanitation programme” means any environmental sanitation programme developed under section 62B of the Environmental Public Health Act 1987, and includes such environmental sanitation programme as amended from time to time;
- 2.8 “high-risk premises” means premises which are prone to increased risk of contamination and contributing to disease transmission due to higher presence of pathogens;
- 2.9 “incident” means an incident that may pose a public-health risk from the identification of a potential source of infection in the premises;
- 2.10 “indoor air quality” refers to the quality of the air in an indoor environment;
- 2.11 “major renovations” refer to renovations that include carpentry, flooring, wall painting and ceiling works or any other works that may result in off-gassing and the release of pollutants from the building material and products;
- 2.12 “mandatory requirements” refer to the minimum stipulated environmental sanitation standards which the premises manager and Environmental Control Coordinator are required to adhere to via a routine and periodic cleaning and disinfection regime in the premises;
- 2.13 “pathogen” means a bacterium, virus, fungus or other microorganism that can cause disease;
- 2.14 “periodic cleaning” means cleaning and disinfection operations covering all areas within the premises, including areas not easily accessible and not covered by routine cleaning, and will require intense cleaning techniques for areas covered under routine cleaning;
- 2.15 “premises manager” means a person or incorporated entity with the charge, management and control of the specified premises, and is responsible for ensuring compliance to the environmental sanitation standards;
- 2.16 “registered Environmental Control Coordinator” means any individual who is registered under the Environmental Public Health Act 1987 as an Environmental Control Coordinator;
- 2.17 “routine cleaning” means the day-to-day cleaning operations of a premises, including disinfection as specified in the environmental sanitation programme;
- 2.18 “sector lead” refers to key stakeholders who have oversight and/or regulation over the premises in their respective sectors;
- 2.19 “specified premises”, has the meaning given by section 62A of the Environmental Public Health Act 1987;
- 2.20 “tray return infrastructure” refers to tray and crockery return racks, trolleys, counters, stations, or other suitable receptacles for the purpose of facilitating diners

in returning trays, crockery and utensils in public dining spaces (i.e food centres or markets, coffeeshops and food courts); and

- 2.21 “youth facility” means any facility specifically intended for use by minors for educational or recreational activities, or for the provision of residential accommodation with board and personal care, including but not limited to preschools, schools and Children and Young Persons Homes.

3 Specified premises requiring Premises Managers (PM) and Environmental Control Coordinators (ECC)

Specified premises must appoint a PM, who will in turn appoint a registered ECC for the specified premises.

- (a) The PM must be a person or incorporated entity with the charge, management and control of the specified premises; and
- (b) The ECC should preferably be a personnel who oversees the day-to-day operations within the specified premises.

The list of specified premises may be referred to in the Environmental Public Health (Designation of Specified Premises) [Order 2021](#).

4 Registration of an Environmental Control Coordinator (ECC)

- 4.1 A person with the requisite qualification must successfully complete a training course and pass the assessment for ECCs before he/she can be registered as an ECC with the National Environment Agency (NEA). The minimum competency requirements for an ECC are:

- (a) Workplace Literacy (WPL) Level 5 for Reading, Listening, Speaking, Writing;
OR
- (b) Pass in ‘N’ level English

- 4.2 Registration and renewal of registration shall be made via the Whole-of Government business licensing portal GoBusiness, at <https://www.gobusiness.gov.sg/licences/find-licence-by-agency/>. A Certificate for Registration for ECC (Appendix IV), which is valid for a stipulated registration period of 3 years, will be issued upon approval, and payment of a registration fee.

- 4.3 It is an offence for a PM to appoint an unregistered ECC who does not possess a valid Certificate of Registration. Likewise, it is an offence for an individual to work as an ECC if he/she does not possess a valid Certificate of Registration.

- 4.4 ECCs, when performing their duties in the specified premises, are required to retain a copy of the Certificate of Registration, for identification purposes.

4.5 The registration for an ECC may be renewed¹ before its expiry, subject to the ECC passing an assessment as deemed necessary by the Director-General. The Certificate of Registration is valid for 3 years.

5 Role and Duties of an Environmental Control Coordinator (ECC)

5.1 The role of an ECC is to assist the PM to develop an ES programme (and monitor its implementation) that is customised to the premises, referencing the sector-specific mandatory baseline ES standards.

5.2 The ECC shall look out for conditions/situations in the specified premises, which cause or are likely to cause environmental sanitation problems. He/She should report these conditions/situations to the PM together with recommendations on remedial measures to rectify the conditions/situations and prevent recurrence. The main areas where the ECC shall pay attention to are:

- (a) Proper and adequate cleaning and maintenance of high-touch surfaces (e.g. handles etc) and high footfall areas such as sanitary facilities (i.e. toilets);
- (b) Proper and adequate cleaning and disinfection of surfaces in contact with bodily discharge;
- (c) Proper housekeeping and refuse management;
- (d) Presence of vectors such as mosquitoes, flies, cockroaches and rats, and their potential breeding or harbourage areas; and
- (e) Indoor air quality (if applicable).

5.3 The ECC shall carry out the following duties at the specified premises:

- (a) Develop and submit an Environmental Sanitation (ES) programme in accordance to the sector-specific template in **Appendix I** to the PM, in order for PM to endorse and submit to NEA **within 1 month from ES regime commencement date for the specified premises**. (Note: Please refer to 6.1(b) on deadline for the PM to submit the ES programme to the Director-General)
- (b) Amend, review and update the ES programme in the manner required by the Director-General or by the applicable codes of practice and standards of performance, and to submit the amended or updated ES programme to the PM;
- (c) Monitor the implementation of the developed, amended or updated ES programme endorsed by the PM;
- (d) Identify, notify and recommend remedial actions to the PM to address any default in the implementation of the ES programme;
- (e) Retain the records of the cleaning, disinfection and pest management works **till the end of the next calendar year** (e.g. records from 1 Jan 2021 to 31 Dec 2021 must be kept till 31 Dec 2022 and may be discarded on 1 Jan 2023);
- (f) Make available for inspection by NEA or any authorised officer the records and service reports when so requested by NEA or any authorised officer;

¹ ECC to submit an ECC training certificate that is no longer than 5 years from date of application/renewal of ECC certificate of registration.

- (g) Attend to NEA or any authorised officers during compliance inspections; and
 - (h) Attend any training course, seminar, conference or meeting conducted by the Ministry of Sustainability and the Environment (MSE)/NEA or other agencies or bodies as the Director-General may require.
- 5.4 The Director-General may suspend or cancel the registration of an ECC if he is satisfied that the ECC has failed to discharge any of his/her duties set out in para 5.3 above.

6 Roles and Duties of a Premises Manager (PM)

- 6.1 The PM shall take and follow the advice given by the ECC in maintaining good ES standards at the specified premises. The PM is responsible for all irregularities and violations in the specified premises under his charge and shall carry out the following duties:
- (a) Appoint an ECC registered with the NEA and notify the Director-General via the submission of the ES programme;
 - (b) Endorse and submit to the Director-General the ES programme developed by the ECC in accordance to the sector-specific template in **Appendix I, within one month upon the implementation of the ES regime to the specified premises**. The ES programme is to be submitted once, and need only be re-submitted if amendments or updates are made, within 14 days. For new specified premises, the ES programme is to be submitted **within one month from start of operations**. The list of changes requiring the resubmission of the ES programme can be found in **Appendix I**;
 - (c) Implement the ES programme upon endorsing it and ensure that the frequencies of cleaning and disinfection and cleanliness outcomes stipulated in the ES programme are met;
 - (d) Implement any remedial measures recommended by the ECC;
 - (e) Comply with any directive issued by the Director-General;
 - (f) Facilitate the work of the ECC by providing the necessary resources including facilities, equipment, and information necessary to enable the ECC to carry out his/her duties effectively and efficiently in the specified premises;
 - (g) Permit the ECC to attend any training courses, seminars, conferences or meetings as and when required by the Director-General, to reimburse them in full as required under the law, and to not make any deduction from the remuneration of the ECC for being absent for the purpose of attending the relevant training course, seminar, conference or meeting;
 - (h) Keep an updated copy of the ES programme at the specified premises; and

- (i) Appoint another ECC and notify the Director-General, via the re-submission of the ES programme, **within 14 days upon termination of appointment, suspension or cancellation of registration** of the ECC appointed for the specified premises.

7 Submission of ES Programme

7.1 Environmental Sanitation (ES) Programme

To maintain high standards of cleanliness and hygiene, every specified premises is required to implement an ES programme. The ECC shall develop and submit the ES programme in accordance to the sector-specific format in **Appendix I** to the PM, who shall endorse and submit a copy to the Director-General.

In consultation with the sector leads, the sector-specific ES standards were adapted from the Technical Guide for Environmental Sanitation for High-Risk Non-Healthcare Premises in Singapore (<https://www.nea.gov.sg/our-services/public-cleanliness/ESR>) developed by the Environmental Sanitation Technical Committee, and were calibrated to meet each sector's operational requirements. The following baseline standards are mandated across all sectors:

- (a) Minimum routine cleaning and disinfection frequencies², which must cover high touch surfaces including sanitary facilities, children-centric facilities, food preparation/service areas and back-of-house areas (such as bin centres). Particular attention must be paid to the high-risk areas e.g. high touch surfaces used by vulnerable persons or high chance of contamination are to be cleaned more frequently;
- (b) Minimum six-monthly thorough periodic cleaning and disinfection of the specified premises, which includes intense cleaning and disinfection of areas covered under routine cleaning, cleaning of areas that are not easily accessible and not covered by routine cleaning (e.g. out-of-reach window panels, ceiling and wall fans). The periodic cleaning frequency may be increased depending on the type of premises (e.g. quarterly for food establishments);
- (c) Minimum yearly maintenance of surfaces or fixtures as stated in the applicable ES programme, which includes the associated stipulated routine cleaning frequency (where relevant);
- (d) Minimum 10% of areas in the premises to be visually inspected daily and after periodic operations to assess that the outcome of cleaning and disinfection works is met;
- (e) Cleaning and disinfection protocol is put in place to respond to incidents involving bodily discharge, where a more intense cleaning and disinfection process must be conducted to thoroughly remove all traces of the bodily fluids

² Inventories of areas which are 3 metres and below in height will generally be covered under the stipulated routine and thorough periodic cleaning and disinfection frequencies (subject to further specifications, if any, within the sector-specific Environmental Sanitation programmes)

and potential pathogens within. Specified premises should refer to the guidelines in Appendix VI when developing their own cleaning and disinfection protocols. The guidelines are extracted from the Environmental Sanitation for High-Risk Non-Healthcare Premises in Singapore Technical Guide;

- (f) Outcome-based cleanliness indicators³ to be achieved after the completion of cleaning operations;
- (g) Ensure workers are trained and provided with the necessary equipment and cleaning agents to carry out effective cleaning and disinfection;
- (h) A pest management plan is developed and filed on site to ensure that measures are in place to prevent pest issues. A comprehensive pest management survey⁴ is to be conducted minimally once every 6 months to review the effectiveness of the pest management plan and any damaged structures that may promote the breeding and harbourage of pests. The comprehensive survey template is appended in **Appendix II**. All other records of the works and measures conducted in respect to the pest management plan must also be filed to facilitate audits carried out by NEA;
- (i) **(Mandatory for youth facilities only)**⁵ Good Indoor Air Quality (IAQ) practices consisting of the use of low Volatile Organic Compounds including low formaldehyde materials for any renovations in indoor spaces, and the conducting and passing of IAQ audits in air-conditioned rooms at least once every three years and after major renovations prior to occupation. The periodic IAQ audits (at least once every 3 years) should include measurements of the recommended IAQ parameters stipulated under Table 1 of the Code of Practice for Indoor Air Quality for Air-conditioned Premises (SS 554:2016+A1:2021), whereas the IAQ audits after major renovations should include measurements of parameters for Formaldehyde and Total Volatile Organic Compounds (TVOCs). In cases where the parameters exceed the acceptable limits stated in SS 554:2016+A1:2021, ECCs and PMs should follow up to identify the cause(s) and rectify the situation accordingly. All records of IAQ audits, follow up or remedial measures conducted must be properly documented, kept for at least 3 calendar years, and should be furnished upon request; and

³ The outcome-based cleanliness indicators include:

- Premises are clean and relatively free of visible litter, stain, environmental waste, spillage and soilage;
- Crockery and trays are promptly cleared from tables, tray return racks, and floor (if any, are placed); and
- No significant vector issues within the premises at any time.

⁴ PM shall comply with the Control of Vectors and Pesticides Act (CVPA) 1998 for vector-related issues and hire a registered pest control operator to carry out the 6-monthly comprehensive pest management survey.

⁵ Youth facility refers to any facility specifically intended for use by minors for educational or recreational activities, or for the provision of residential accommodation with board and personal care, including but not limited to preschools, schools and Children and Young Persons Homes.

- (j) **(Mandatory for food centres or markets, coffeeshops and food courts)**
Installation and maintenance of tray return infrastructure⁶ in the premises' dining and refreshment area, for trays, crockery, and utensils to be returned.

When developing the ES programme, specified premises shall incorporate standards above but not below the minimum standards as stipulated in the respective sector-specific standards.

An updated copy of the ES programme, the records of the cleaning and disinfection works, IAQ audit reports (if applicable) and the records of inspections must be kept at the specified premises and made available for inspection by NEA or any authorised officer when requested. A sample template of the records of inspections can be found in **Appendix II**. The list of records to be kept can be found in **Appendix III**.

8 Best Practices

This section provides a set of recommendations which PMs and ECCs are encouraged to adopt in addition to the mandatory minimum standards. To facilitate ECCs and PMs in ensuring good practices are observed in specified premises, guidance on the main areas to be addressed and requirements to be met are listed below. PMs and ECCs can implement these recommendations to minimise any potential environmental sanitation hazards.

8.1 Cleaning Operations

8.1.1 Back-of-house areas such as toilets and waste disposal areas are particularly prone to public health risks and pest infestations, and should be decluttered and cleaned regularly.

8.1.2 In tandem with the cleaning operations, inspections should be conducted to check for physical defects that may impede cleaning, and such defects should be rectified/ repaired promptly.

8.1.3 Visual inspections should take place soon after the cleaning operations to assess the quality of cleaning. ECCs and PMs may refer to the Singapore Standards on Cleaning for guidance on the quality benchmarks for visual inspection. The use of visual indicators such as fluorescent gel is also advised to complement visual inspections of the cleaning operations. In addition, the use of ATP (adenosine triphosphate) meter is recommended for food preparation areas upon routine cleaning, and areas with higher risk profile during periodic operations.

8.1.4 In the event of an infectious disease outbreak, ECCs and PMs should increase the frequency of routine cleaning and disinfection. ECCs and PMs should ensure all cleaning personnel are equipped with proper Personal Protective Equipment (PPE) to provide full protection from microorganisms and the chemicals

⁶ [Tray return infrastructure](#) refers to tray and crockery return racks, trolleys, counters, stations, or other suitable receptacles for the purpose of facilitating diners in returning trays, crockery and utensils in public dining spaces.

used. When the pathogen responsible for the outbreak is known, ECCs and PMs should ensure that the right type of disinfectant, which contain the effective concentrations of suitable active ingredients is used with the recommended contact time. ECCs and PMs may refer to the Environmental Sanitation for High-Risk Non-Healthcare Premises in Singapore Technical Guide for information on the types of disinfectants to be used.

8.1.5 Hand hygiene should be performed following the removal of each PPE piece, after cleaning and disinfection operations. Alcohol based (minimum 60%)⁷ hand sanitisers may be utilised for circumstances where soap and water are not readily available.

8.2 Toilet Facilities

8.2.1 Toilets must not be used for storage purposes.

8.2.2 Toilets must be clean, and the floor should be kept dry at all times. Inspection cards or feedback monitoring system should be used to monitor the daily maintenance of the toilet. Spot cleaning should be carried out during peak hours and in between major cleaning.

8.2.3 Colour coded cloths or cleaning tools should be used to differentiate the areas used for cleaning (e.g., cloth for litter bins shall not be used for toilet cubicles or vanity tops to prevent cross contamination.)

8.2.4 Particular attention should be paid to the disinfection of sink and floor gully U-traps before cleaning to reduce the risk of virus aerosolisation from wastewater. For disinfection of sink U-trap, pour a cup (250mL) of 0.5% bleach solution into the sink and for the disinfection of toilet floor gully U-trap, pour 2 cups of 0.5% bleach solution into the floor trap and allow contact time of at least 5 minutes.

8.2.5 Reusable cleaning tools and equipment should be disinfected after use with an appropriate disinfectant. Disposable cleaning tools should be properly disposed of after use.

8.2.6 Checks for leaks in sanitary pipes and fittings should be made, especially at the joints. Any leaks or defects should be rectified immediately. Water seal should not be dried out.

8.2.7 Toilets must be sufficiently ventilated and exhaust fans should be kept running longer operating hours. Any mechanical ventilation system used should be cleaned and serviced regularly.

8.2.8 Provision of air deodorisers and sanitisers for toilet bowls is encouraged.

8.2.9 Limit usage of floor blowers in toilets to dry the floor after cleaning, and when the toilet is closed. Floor blowers should not be used when toilets are operational to minimise the risk of exposure to bioaerosols.

⁷ Reference made from https://www.moh.gov.sg/docs/librariesprovider5/2019-ncov/covid-19-pss-educational-material_final.pdf

8.2.10 To reduce the risk of transmission of infectious diseases, ECCs and PMs are encouraged to refer to the NEA's [Guidelines](https://www.nea.gov.sg/our-services/public-cleanliness/environmental-cleaning-guidelines/guidelines/guidelines-for-environmental-cleaning-and-disinfection-of-public-toilets-in-non-healthcare-premises) for Environmental Cleaning and Disinfection of Public Toilets in Non-Healthcare Premises at <https://www.nea.gov.sg/our-services/public-cleanliness/environmental-cleaning-guidelines/guidelines/guidelines-for-environmental-cleaning-and-disinfection-of-public-toilets-in-non-healthcare-premises>.

8.3 Pest Management

8.3.1 Premises must engage a NEA-registered vector control operator (VCO) from the list of registered VCOs on <https://nea.gov.sg/our-services/pest-control/vector-control-operator> to carry out the 6-monthly comprehensive pest management survey. PMs should ensure that competent personnel with experience are hired to carry out the survey and take into consideration the complexity of the premises and the corresponding manpower and time required, to ensure that the survey is carried out properly and effectively.

8.3.2 PMs should furnish a copy of the detailed site plan to the VCOs to facilitate understanding of the premises' structure/layout so as to determine any areas of concern that requires regular monitoring or to put in place a routine pest management surveillance and treatment contract.

8.3.3 Premises with history of pest infestations or with exceptional circumstances (e.g. major alteration and addition (A&A) works, having undergone a change in management or VCO), should conduct the comprehensive survey more frequently than the stipulated minimum frequency of once every six months. Treatment should be carried out, when necessary, to eliminate pest infestations.

8.3.4 PMs should ensure proper refuse management and housekeeping to prevent harbourage and breeding of pests. All damaged structures should be repaired and pest proofed where necessary. This includes ensuring that windows or external doors are close fitting, gaps are less than 6mm to prevent entry of rats, sanitary systems and grease traps are in good working condition.

8.3.5 Should any carcasses or parts of pests be found within the premises, proper disposal should be carried out and affected areas sanitised.

8.3.6 The PM and ECC should maintain good records of the pest management plan and pest management service reports from the VCOs to monitor progress over time. In addition, the performance of the VCOs should be assessed regularly to ensure that the scope of work as stipulated in the contract is met. If the PM and ECC assessed that the VCO's performance is unsatisfactory, the PM should highlight areas of improvement and key performance indicators to be met.

8.3.7 For further guidance, ECCs and PMs may refer to **Appendix VII** for specific vector control measures.

8.4 Indoor Air Quality (IAQ)

8.4.1 While the mandatory good IAQ practices stated under Section 7.1 (i) are applicable to youth facilities, other premises owners are also encouraged to adopt practices to ensure good IAQ in their premises, where applicable.

8.4.2 Air-conditioning and mechanical ventilation (ACMV) systems should be visually inspected and kept in a state free of non-adhered substances and debris. Inspection of air handling units and air ducts are recommended every six and twelve months respectively, or more frequently, if necessary. ACMV systems should be cleaned when they are contaminated with non-adhered substances and debris, discharging visible particulate, and restricted or blocked by non-adhered substances and debris. The inspection and cleaning of ACMV systems and air ducts is a specialised work that should be performed by competent persons.

8.4.3 For further guidance, ECCs and PMs may refer to the Code of Practice for Indoor Air Quality for Air-conditioned Premises (SS 554:2016+A1:2021) on good IAQ practices.

8.5 Professionalism

8.5.1 ECCs and PMs should ensure good coordination with relevant stakeholders when necessary, to ensure that the overall cleaning outcome-based indicators are met.

8.5.2 To ensure that ECCs and PMs are equipped with the correct knowledge and skillset, ECCs and PMs may consider attending relevant training or send pertinent employees for training on relevant environmental cleaning topics.

8.5.3 To ensure that the ES programme remains applicable for the specified premises to maintain high levels of sanitation and hygiene, the ECC should periodically review the ES programme minimally on a yearly basis and re-submit to NEA if there are updates.

9 Penalties

9.1 The ES Regime is administered under the Environmental Public Health Act 1987. It is an offence for the ECC or PM to contravene or to fail to comply with any of the clauses or regulations stated in the Act or its associated subsidiary legislation. The list of penalties that can be imposed on the ECC or the PM is tabulated in **Appendix V**.

10 Useful References

ECCs and PMs may refer to the resources in the following table for further guidance on environmental sanitation and cleaning matters:

S/N	Resources
1	<p>Technical Guide for Environmental Sanitation for High-Risk Non-Healthcare Premises in Singapore</p>
2	<p>The Singapore Standards on Cleaning:</p> <ul style="list-style-type: none"> (a) SS 499:2002 (2015) Cleaning Service Industry – Cleaning Performance for Commercial Premises; (b) SS 610:2016 Guidelines for Cleaning Performance of Retail Food and Beverage (F&B) Premises; and (c) SS 533:2007 (2015) Cleaning Performance for Public Housing Estates <p>The Singapore Standards may be purchased from http://www.singaporestandardseshop.sg.</p>
3	<p>The Singapore Standards SS 554:2016+A1:2021 Code of Practice for Indoor Air Quality for Air-Conditioned Buildings</p> <p>The Singapore Standards may be purchased from http://www.singaporestandardseshop.sg.</p>
4	<p>The National Environment Agency's Pictorial Guidelines for cleaning procedures on:</p> <ul style="list-style-type: none"> (a) Office Common Area; (b) Office Space; (c) Retail F&B; and (d) Washroom <p>The pictorial guides were developed in partnership with Workforce Singapore, Environmental Management Association of Singapore, the Restroom Association of Singapore, the World Toilet Organisation, as well as cleaning service providers and Approved Training Organisations.</p>
5	<p>The National Environment Agency's Guidelines for Environmental Cleaning and Disinfection of Public Toilets in Non-Healthcare Premises</p>
6	<p>The World Health Organisation's Pictorial Guidelines on the proper donning and doffing of Personal Protective Equipment (PPE)</p>
7	<p>The World Health Organisation's Glove Use Information Leaflet and Pictorial Guidelines for the donning and doffing of gloves</p>

Appendix I: Sector-specific Environmental Sanitation (ES) Programmes

ECCs are to refer to the sector-specific ES Programme to develop the ES programme for their specified premises. The ES programme has to be submitted within 1 month from commencement of ES regime for the sector or commencement of operations of new specified premises. The ES Programme has to be resubmitted to NEA within 14 days when amendments are made, to the:

1. PM and/or ECC;
2. Inventory of areas to be cleaned and disinfected;
3. Cleaning and disinfection frequency;
4. Address of the Premises;
5. Appointment of outsourced cleaning contractor (if applicable); and
6. Appointment of registered vector control operator (if applicable).

The ES Programme submitted must follow the template in the latest Code of Practice for Environmental Control Coordinators. All sections of the template i.e. (1) Scope and Frequency of Cleaning, Disinfection and Facility Inspection, (2) Surfaces/fixtures that require annual maintenance/ cleaning, (3) Inspection on Cleanliness, (4) Declaration on Manpower, equipment, amenities, cleaning methodology and cleaning agents used and (5) Pest Management must be included in your ES Programme.

For inventories of areas under the section 'Scope and Frequency of Cleaning, Disinfection and Facility Inspection' which are not applicable to your specified premises, please indicate 'NA' in the columns for 'routine' and 'periodic' frequency.

1 Preschools



<https://www.nea.gov.sg/docs/default-source/default-document-library/preschool-es-programme02.docx>

2 Social services facilities



<https://www.nea.gov.sg/docs/default-source/default-document-library/social-service-facilities-es-programme02.docx>

3 Community care/Eldercare facilities



<https://www.nea.gov.sg/docs/default-source/default-document-library/community-care-eldercare-facilities-es-programme01.docx>

4 Schools



<https://www.nea.gov.sg/docs/default-source/default-document-library/schools-es-programme.docx>

5 Food Centres and Markets



<https://www.nea.gov.sg/docs/default-source/default-document-library/food-centres-and-markets-es-programme01.docx>

6 Coffeeshops



<https://www.nea.gov.sg/docs/default-source/default-document-library/coffeeshops-es-programme02.docx>

7 Food Courts/Canteens



<https://www.nea.gov.sg/docs/default-source/default-document-library/food-court-and-canteen-es-programme.docx>

8 Student Care Centres



<https://www.nea.gov.sg/docs/default-source/default-document-library/student-care-centres-es-programme.docx>

Appendix II: Sample Inspection and Survey templates

1 Sample Cleaning/Inspection Schedule (Weekly, Daily)



<https://www.nea.gov.sg/docs/default-source/our-services/public-cleanliness/es-regime/sample-cleaning-and-inspection-schedule.docx>

2 Comprehensive Pest Management Survey



[https://www.nea.gov.sg/docs/default-source/our-services/public-cleanliness/es-regime/comprehensive-pest-management-survey-template-\(2nd-edition\).docx](https://www.nea.gov.sg/docs/default-source/our-services/public-cleanliness/es-regime/comprehensive-pest-management-survey-template-(2nd-edition).docx)

Appendix III: List of Records to be kept

S/N	Documents to be kept on-site <i>Records of cleaning, disinfection and pest management works shall be kept till the end of the next calendar year while records of IAQ audits shall be kept for at least 3 calendar years.</i>
1	Up-to-date and endorsed ES Programme (Appendix I)
2	Daily and thorough periodic cleaning/inspection records (Appendix II)
3	Comprehensive pest management survey report (Appendix II)
4	Routine pest management service reports (if any)
5	SOP for proper cleaning and disinfection procedures (including incidents of bodily discharge) (Appendix VI)
6	Cleaning contract (if any)
7	Pest management contract (if any)
8	IAQ 3-yearly audit report <i>(if applicable)</i>
9	Post renovation works IAQ audit reports <i>(if applicable)</i>

Appendix IV: Sample Certificate of Registration for Environmental Control Coordinator

 <p>National Environment Agency Melaka - Johore - Sabah</p>	<p>CERTIFICATE OF REGISTRATION FOR ENVIRONMENTAL CONTROL COORDINATOR</p>	<p>Passport size photo will be inserted here</p>
<p>NAME: NRIC/FIN: REG NO: DATE OF ISSUE: DATE OF EXPIRY:</p>		
<p>for Director Development Control and Licensing Division</p>		

**Environmental Public Health Act 1987
Environmental Public Health (Registration of Environmental Control Coordinators and Environmental Control Officers) Regulations 2021**

This is to certify that the person whose identity is stated on this document has been registered under the Environmental Public Health Act and its associated subsidiary legislation. The person stated on this document is required to comply with the Act, its associated subsidiary legislation, Code of Practice, Standards of Performance and any order which the Director-General of Public Health and/or any authorised officer may, from time to time, issue.

This Certificate of Registration is to be carried by the person stated on this document whenever duties related to that of an Environmental Control Coordinator (ECC) are carried out.

Appendix V: Penalties

1 Penalties against Environmental Control Coordinator (ECC)

S/N	Nature of Offence	Penalty
Environmental Public Health Act 1987		
1	<p>Section 61A</p> <p>An individual fails to register before taking on the role of an ECC, or acts in the role of an ECC when his/her registration is suspended.</p>	Fine not exceeding \$5,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$10,000
2	<p>Section 62D</p> <p>Failure of ECC, without reasonable excuse, to comply with any requirement imposed under monitoring powers, e.g. to furnish documents and information.</p>	Fine not exceeding \$5,000.

2 Penalties against Premises Manager (PM)

S/N	Nature of Offence	Penalty
Environmental Public Health Act 1987		
1	<p>Section 62A</p> <p>Manager of any specified premises fails to appoint a registered ECC.</p>	Fine not exceeding \$5,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$10,000.
2	<p>Section 62B</p> <p>Failure of the PM to –</p> <p>(a) Endorse and submit to the Director-General the ES programme;</p> <p>(b) Implement the ES programme upon endorsing it;</p> <p>(c) Implement any remedial measures recommended to the manager by the ECC.</p>	Fine not exceeding \$5,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$10,000.
3	<p>Section 62C</p> <p>Failure of the manager to comply with any directive issued by the Director-General.</p>	Fine not exceeding \$5,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$10,000.

Environmental Public Health (Specified Premises) Regulations 2021		
4	<p>Regulation 2</p> <p>Manager fails to;</p> <p>(a) keep an updated copy of the environmental sanitation programme at the specified premises.</p> <p>(b) make that copy available for inspection if required by the Director-General or any authorised officer appointed under section 3(2) of the Act.</p>	<p>Fine not exceeding \$5,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$10,000.</p>
5	<p>Regulation 3</p> <p>Manager fails to appoint another ECC within 14 days upon termination of employment or suspension or cancellation of the registration of the ECC for any specified premises.</p>	<p>Fine not exceeding \$5,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$10,000.</p>
6	<p>Regulation 4</p> <p>Manager fails to –</p> <p>(a) provide the ECC for the specified premises with the facilities, equipment and information that are necessary to enable the ECC to discharge his or her duties effectively;</p> <p>(b) permit the ECC for the specified premises to attend the meetings and training courses relating to the work of the ECC that the Director-General- may require;</p> <p>(c) reimburse the ECC for the specified premises for all expenses incurred by the ECC in attending the meetings or training courses mentioned in sub-paragraph (b); and</p> <p>(d) not make any deduction from the remuneration of the ECC for the specified premises for being absent from work for the purposes of attending the meetings or training courses mentioned in subparagraph (b).</p>	<p>Fine not exceeding \$1,000 and, in the case of a second or subsequent conviction, to a fine not exceeding \$2,000.</p>

Appendix VI: Incident Response Cleaning and Disinfection Guidelines

1 Incident Response

1.1 This section provides guidelines for response to incidents that pose a public-health risk such as the evidence of contamination by bodily discharge e.g. vomitus or faecal/urine discharge of a sick person. This also applies to stools and urine present in toilets other than those discharged in toilet bowls/urinals, which can be appropriately flushed away.

1.2 Premises Managers (PMs) are expected to ensure the availability of manpower and resources to carry out the incident response. The personnel responding to the incidents should be familiar with the incident response cleaning and disinfection guidelines. PMs may identify personnel or teams to respond to such incidents.

1.3 Evidence of contamination by bodily discharge

If bodily discharge is detected in the premises, or if contamination by bodily discharge is suspected, the area where the bodily discharge/contamination was detected should be cordoned off from the public, with a minimum radius of 3 metres surrounding the area. Environmental cleaning and disinfection of the area should be carried out immediately as described in Section 3.

If persons who released the bodily discharge are present in the premises, they may be potentially infectious and unwell. Attend to the potentially infectious persons as described in Section 4.

Some examples of potentially infectious bodily discharge and their possible routes of transmission are listed in the table below:

Type of bodily discharge	Possible routes of transmission	Possible infectious diseases
Blood or pus	Blood-borne, through broken skin or exposure to mucous membranes	Hepatitis B and C, human immunodeficiency virus (HIV)
Nasal or throat discharges (including but not limited to aspirates, mucus, sputum and saliva)	Airborne and/or contact	Common cold, influenza and other respiratory viruses, measles, mumps, chickenpox, tuberculosis
Secretions (including but not limited to vesicular fluids)	Airborne and/or contact	Measles, mumps, chickenpox
Stool (solid or watery)	Faecal-oral	Bacterial and viral gastroenteritis including norovirus and rotavirus, hepatitis A and E, <i>Salmonella</i> , <i>Shigella</i> , and other enteric bacteria
Urine	Contact	Cytomegalovirus

Vomit	Faecal-oral	Bacterial and viral gastroenteritis including norovirus and rotavirus, hepatitis A and E, <i>Salmonella</i> , <i>Shigella</i> , and other enteric bacteria
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2 Materials and Equipment

2.1 The appropriate use of Personal Protective Equipment (PPE), cleaning equipment and disinfectant is required to prevent or minimise the spread of infection when cleaning and disinfection is carried out. Owners and operators of premises should ensure that they have adequate stocks of items listed in Sections 2.2-2.4.

2.2 The following lists the minimum required PPE that should be available when environmental cleaning and disinfection of bodily discharge is carried out:

- (a) Disposable vinyl gloves;
- (b) Disposable aprons or gowns, or a change of clothes;
- (c) Surgical mask*; and
- (d) Shoe covers or cleaning boots (where necessary).

*N95 masks and goggles may be required in scenarios where there is a risk of aerosolisation of the infectious agents. Personnel must be mask-fitted prior to the use of N95 masks.

2.3 The following lists the minimum required materials and cleaning equipment that should be available when environmental cleaning and disinfection of bodily discharge is carried out:

- (a) Detergent;
- (b) Water;
- (c) Absorbent material (disposable cloths/rags);
- (d) Disposable bins;
- (e) Disposable forceps/tongs;
- (f) Disposable puncture-resistant container (for disposal of sharps);
- (g) Double-lined plastic/trash bags;
- (h) Mop;
- (i) Pail;
- (j) Signage/warning notices to alert public (in various languages where possible); and
- (k) Tape or marker cones to cordon off area.

2.4 Disinfectants

The disinfectant used should be selected based on the likely pathogen present. Disinfectants should be prepared and applied in accordance with the manufacturer's guidelines. Users should ensure that appropriate contact time is given before removing any disinfected materials. Users should also be equipped

with the appropriate tools and where necessary, PPE, before conducting any cleaning and/or disinfection.

The following lists common disinfectants that may be used in cleaning and disinfection procedures in response to incidents:

- (a) Hypochlorites. e.g. household bleach (5.25-6.15% sodium hypochlorite) – For cleaning and disinfection of highly contaminated surfaces, dilute 1 part bleach in 9 parts water or 5000 ppm. Allow contact time of 10 minutes. Hypochlorite solutions should be prepared fresh.
- (b) Chlorine-based products – Alternative chlorine-based products release chlorine dioxide, sodium dichloroisocyanurate, or chloramine-T, based on their mode of action. Refer to the manufacturer’s guidelines for details on disinfection properties and use.
- (c) Hydrogen peroxide – This disinfectant possesses bactericidal, virucidal, sporicidal, and fungicidal properties². They can be used as a disinfectant in a post-incident cleaning and disinfectant procedure (7.5%, 30 minutes contact time).
- (d) Alcohol-based disinfectants and quaternary ammonium compounds (QUATS) are not encouraged for use in cleaning and disinfection procedures in response to incidents when the infectious agent is unknown.

For more information on the types of disinfectants available, please refer to international sources such as the United States Environmental Protection Agency⁸ and the Centers for Disease Control and Prevention⁹.

3 Cleaning and Disinfection Procedures

3.1 This section describes recommended procedures to carry out cleaning and disinfection of premises when there is evidence of contamination by bodily discharge or when there is prolonged exposure to individuals infected with severe infectious diseases that may be environmentally acquired.

3.2 Safety Precautions

Safety precautions are work practices that assume all bodily discharge are potentially infectious. When cleaning and disinfection is carried out, these safety precautions should be observed to minimise the risk of disease transmission:

(a) General practices:

- Good hygiene practices are encouraged before and after a cleaning and disinfection procedure. This will include hand washes before and after a cleaning and disinfection procedure is carried out.

⁸ Guidelines for Environmental Infection Control in Health-Care Facilities, 2003 (Updated 2019), the Centers for Disease Control and Prevention, United States,

<https://www.cdc.gov/infectioncontrol/pdf/guidelines/environmental-guidelines-P.pdf>

⁹ Selected EPA-registered Disinfectants, Environmental Protection Agency, United States,

<https://www.epa.gov/pesticide-registration/selected-epa-registered-disinfectants>

- Before and during clean-up and disinfection, cordon-off area surrounding the bodily discharge, put up signage to inform public to avoid the area.

(b) PPE:

- Gloves, surgical mask (or N95 and goggles)* and disposable gowns should be worn when clean-up is carried out and when wastes are handled. Gloves should be changed when they have come into contact with the bodily discharges or are visibly soiled.
- Shoe covers or cleaning boots should be worn when necessary to avoid dirtying and contaminating shoes (for example, if the bodily fluid is found on the floor).

* In scenarios where cleaning activities may generate aerosols, or if infectious agents are transmitted via aerosols, wear an N95 mask in place of a surgical mask, and eye goggles or face shields.

(c) Waste Disposal:

- For liquid wastes (blood, bodily fluids), absorb the bulk of the spill with disposable materials like disposable cloths.
- Special care should be taken if spill area contains sharp materials. Sharp materials should be picked up with tongs or forceps, wrapped securely in layers of newspaper and disposed into double-lined plastic/trash bags, or thrown in puncture-resistant containers.
- All infectious wastes should be discarded into double-lined plastic/trash bags, or a puncture-resistant container.
- Double-lined plastic/trash bags and puncture-resistant containers containing potentially-infected wastes should be segregated from other waste, and disposed of as general waste which will be incinerated.

3.3 Cleaning and disinfection procedures

The following describes general procedures for cleaning and disinfection at premises when there is evidence of contamination by bodily discharge:

- (d) Wash hands and put on PPE. Avoid touching face, mouth, nose and eyes during clean-up. Gloves should be removed and discarded if they become soiled or damaged, and a new pair worn.
- (e) Prepare the disinfectant according to the manufacturer's recommendations or bleach solution (dilute 1 part bleach in 9 parts water, 5,000 ppm).
- (f) Cordon off the area for cleaning from the public, with a minimum radius of 3 metres around the bodily discharge.

- (g) Pre-soak absorbent materials such as disposable cloths with disinfectant or bleach.
- (h) Avoid using a spray pack to apply disinfectant on potentially highly contaminated areas (such as toilet bowl or surrounding surfaces) as it may create splashes which can further spread the infectious agents.
- (i) If solids or semi-solids (e.g. stools, watery stools) are present, using a pair of tongs, pick up the discharge with disinfectant-soaked absorbent material. Dispose the solid/semi-solids into double-lined plastic/trash bags.
- (j) Sharp materials should be picked up with tongs or forceps, wrapped securely in layers of newspaper and disposed in double-lined plastic/trash plastic bags, or thrown in puncture-resistant containers.
- (k) Cover the remaining spill area with disinfectant-soaked absorbent material and allow for the appropriate contact time.
- (l) Remove and discard absorbent material and disinfected waste into double-lined plastic/trash bags.
- (m) Use new, disinfectant-soaked absorbent material to wipe off any remaining disinfected waste.
- (n) Discard used absorbent material and tongs into double-lined plastic/trash bags.
- (o) Double-lined plastic/trash bags containing infectious waste and puncture-resistant containers should be sealed securely and disposed of as general waste. Where possible, cleaning equipment used to handle infectious material should also be disposed.
- (p) Following the cleaning and disinfection of the premises, surface-clean the affected area with disinfectant.
- (q) Cleaning equipment that cannot be disposed of should be disinfected by soaking in disinfectant or bleach solution.
- (r) All disposable PPE should be removed and disposed of after the cleaning and disinfection activities. Hands should be washed with soap and water immediately after each piece of PPE is removed, following completion of cleaning.
- (s) If disposable gowns are not used, shower or wash up and change clothes immediately after the clean-up.

Special circumstances

- (a) For fabrics, remove curtains/ fabrics/ quilts for washing, preferably using the hot water cycle. For hot-water laundry cycles, wash with detergent or disinfectant in water at 70°C for at least 25 minutes. If low-temperature (i.e. less than 70°C) laundry cycles are used, choose a chemical that is suitable for low-temperature washing when used at the proper concentration.

- (b) For contaminated carpets, cushions or mattresses, arrange for a cleaning contractor as soon as possible to clean and disinfect the items. Before the area/item is cleaned, cordon off the affected area, or do not use the item, until cleaning and disinfection has been completed.

4 Attending to Potentially-Infected Person(s)

This section describes recommended procedures when attending to potentially-infected person(s) [scenario in Section 1.3]:

- (a) Wear gloves when attending to the person(s).
- (b) Wear a surgical mask when person(s) appears to suffer from a respiratory infection.
- (c) If person(s) is present in the premises, escort person(s) to sick bay or holding area that is not publicly accessible.
- (d) Assist person(s) to seek medical attention or care immediately.
- (e) Dispose of PPE in general waste.
- (f) Practise good hand hygiene by washing hands with soap before and after coming in contact with potentially-infected or known-infected person(s).
- (g) Record down the time and nature of the incident. Obtain the contact number and details of the person(s) if they are agreeable for contact tracing purpose.

Appendix VII: Specific Vector Control Measures

Specific measures pertaining to vector control are as provided for reference:

1 Control of Mosquitoes

- 1.1 Inspections should be conducted at least once a week at all areas to detect and remove stagnant water and/or mosquito breeding.
- 1.2 For stagnant water that cannot be removed immediately due to structural defects, larvicides should be applied as an interim measure. Reapplication may be required after rain.
- 1.3 Good housekeeping should be maintained to prevent the stagnation of water among receptacles and litter. Structural defects should be rectified promptly.
- 1.4 Fogging should only be carried out when the adult mosquito population is high or when there are mosquito-borne disease transmissions near the specified premises. Routine thermal fogging as a preventive measure is not encouraged. Thermal fogging shall be carried out by NEA-registered VCO, using a suitable NEA-registered insecticide.

2 Control of Rats, Flies and Cockroaches

- 2.1 Good housekeeping and refuse management is necessary to prevent the propagation and harbouring of rats, flies and cockroaches.
- 2.2 Eliminate food sources:
 - (a) Maintain the cleanliness of the premises daily. Clean up food or refuse spillage immediately.
 - (b) Organic wastes should be bagged, tied and properly disposed of in covered refuse bins. The refuse bins shall be in good condition and lined with plastic bags. Refuse bins should always be covered and emptied at the end of each day.
 - (c) Food should be properly stored in tightly covered containers, metal cabinets or in screened rat-proof rooms. Food items should be stored at least 15cm above the ground.
- 2.3 Eliminate shelters and entry points:
 - (a) Store goods properly and inspect the storage areas regularly.
 - (b) Dispose of unwanted items promptly.
 - (c) Seal any holes or crevices in the ceiling, walls or floors.
 - (d) Ensure that floor traps and downpipes are properly covered with grating.

- (e) Install strong wire meshes at any potential rat entry points, such as doors and window. Where possible, cover entrance points by placing air curtains or plastic screens, or installing self-closing doors.

3 Other Vector Control measures

- (a) Regular checks for pest infestations and burrows should be conducted.
- (b) Active burrows shall be properly treated. Burrows shall be sealed only when they are no longer active. Crevices are potential rat harbourage areas and should be sealed.
- (c) Should sludge be used for landscaping, the sludge should be covered with a layer of topsoil at least 5 cm thick to prevent breeding of flies.
- (d) The use of restricted use pesticides shall be handled only by the VCO.

For clarifications on any aspect of the Code of Practice, please contact NEA via the NEA online feedback form at www.nea.gov.sg.



NEA's Online
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NEA's
Environmental
Sanitation Regime