

Advisory to Telecommunication, Media and Postal Licensees - Precautionary Measures for Dealing with COVID-19

Issued by IMDA to telecommunication, media¹ and postal licensees that are operating workplace activities during COVID-19 situation until further notice.

MOM's Safe Management Measures at Workplace for Compliance

(1) All Employers and Employees to Comply with Prevailing Safe Management Measures at Workplace issued by Relevant Authorities such as MOM

- Review company's SOPs for workplace, to ensure compliance with prevailing safety measures as directed by relevant authorities including MOH and MOM
- Brief all employees on prevailing relevant Ministries' (e.g., MOH and MOM) COVID-19 guidelines and advisories regularly
- Create checklist, conduct checks and record to ensure employees adhere to the prevailing measures
- Refer to the latest copy of **MOM Safe Management Measures at Workplace** <https://www.mom.gov.sg/covid-19/requirements-for-safe-management-measures>

Additional Advisories from IMDA for Compliance

General

(2) Additional Safe Management Measures for Compliance

- Brief employees on prevailing IMDA advisories regularly
- Create checklist, conduct checks and record to ensure employees adhere to prevailing IMDA's advisories (e.g. wearing of masks etc.)
- Employers must exercise heightened vigilance at the workplace
- Working-from-Home (WFH) to be the default for those who are able to WFH. There should continue to be no cross-deployment of workers to multiple worksites.
- Brief employees that they should not report to work if they feel unwell and encourage employees not to report to work if any member in their household are unwell. Unwell employees should see a doctor immediately.
- Ensure employees wear masks properly at all times. Additionally, face shields may be worn in accordance with MOH's prevailing advisories
- Step up the frequency of cleaning of workplace premises. Refer to NEA's cleaning guidelines for details at www.nea.gov.sg/our-services/public-cleanliness/environmental-cleaning-guidelines
- Log your employee's entry into and exit from workplaces via TraceTogether-only SafeEntry (ToS). For full list of venues/places where SafeEntry must be deployed, please refer to <https://www.safeentry.gov.sg/deployment/>
- Employees are to use the TraceTogether token or download and activate the TraceTogether app, including holding on to their token or mobile devices at all times, where reasonably practicable
- Defer all official overseas trips where possible

¹ Additionally, media licensees are required to comply to IMDA's Mandatory Safety Rules for the Resumption of Content Production

- Centralise overseas leave applications (e.g., with HR) during the period for ease of coordination and monitoring. For example, employees who need to make personal trips overseas during this period should write to their HR for approval before submitting their online leave application

Specific Workplace Functions or Areas

Companies are to perform regular checks on SMM measures for their workplace and frontline operations in compliance to safe management measures required by the relevant government agencies specifically to below sections 3, 4, and 5 where relevant. The records and schedules for such checks are to be kept for the purpose of SMM audits.

(3) Outfield Works² (performed by employees including contractor/vendor employees)

- Brief employees on proper usage of masks and personal protective equipment (PPE)
- Brief employees on higher risk sites/locations so that employees can take extra precautions measures (e.g., hospitals, Government Quarantine Facilities (GQFs), foreign employees' dormitories)
- Maintain safe distancing from co-workers at workplace, including the staggering of mealtimes and breaks
- Keep records of locations and customers visited to support contact tracing if needed
- Maintain safe distancing in vehicles with marked seats
- Remind employees to observe good personal hygiene and issue hand sanitisers to frontline employees that may have contact with the general population

(4) Indoor Works (Enter premise/homes for works) (performed by employees including contractor/vendor employees)

- Check with premise owners/tenants if they wish to continue with their orders, and issue an advisory to them on good practices to adopt when the employees are in their premises, such as maintain safe distances (at least 1m) from the employees and minimise interaction time
- Homeowners are to be notified of how many technicians will enter the premises for home installations, so that the homeowners can plan and keep within the number of distinct visitors per day, based on MOH's COVID-19 guidelines
- Require the in-premise employees/contractors to wear gloves (where practical), face mask and face shield/eye goggles as an additional layer of protection
- Require the in-premise employees/contractors to sanitise their hands before entry into the premise, and after completing the job
- Clean-up and disinfect the worksite after the job is completed
- Implementation of electronic survey to premise owners/tenants is encouraged to solicit feedback on in-premise employees/contractors' adherence to safe management measures

² This include works such as outside plant installation and maintenance, outdoor news and content production, and outdoor postal and newspaper delivery.

(5) Frontline and customer-facing operations

- All retail establishment's customers-facing operations must adhere to the latest copy of joint advisory set out by Enterprise Singapore (ESG), Housing & Development Board (HDB), Singapore Tourism Board (STB) and Urban Redevelopment Authority (URA).
Refer to
 - <https://www.enterprisesg.gov.sg/covid-19/safe-distance>
- Employees must provide clear communication on safe distancing measures to customers. Put up simple signage to clearly communicate these practices to customers
- Put up visible signage to advise customers who are unwell or have flu-like symptoms to see a doctor and to reschedule their appointments, or be served via alternate means such as e-service, teleconferencing, etc to the extent that is operationally feasible based on company's operating context
- Encourage members of the public to send in their queries or sign up for services online
- All other retail stores not located within malls are strongly encouraged to conduct temperature screening and checks on visible symptoms where practicable.
- Ensure employees and customers have their masks on at all times
- Conduct more frequent cleaning of areas with high human contact, such as frontline counters where customers are served and rooms where customers are hosted
- Provide hand sanitisers to frontline employees who handle cash and other devices and unable to wash their hands frequently
- Frequently disinfect common spaces and increase frequency of cleaning for high-touch surfaces and interactive components within the premises, such as self-checkout kiosks
- Implement e-queueing system to prevent congregation at retail establishment and schedule booking of appointments for customers on service provisioning, repair or product collection where applicable

(6) Accommodation for Foreign Employees

- Split accommodation across function groups with segregation by floors. Employees performing the same function should be split up at different residences and segregated at different floors at the same accommodation. This is to minimise the risk of all employees performing the same function to be issued Quarantine Orders or Stay Home Notices (QOs/SHNs) at the same time if there is a confirmed COVID-19 positive case
- Remind employees to practice safe distancing at their accommodation place. Strict instructions should be sent to remind employees not to mingle beyond the permissible group size
- Instructions should be sent to remind and encourage employees of different shifts not to meet each other at the accommodation place and for social gatherings

(7) Transiting between Accommodation and Workplace

- Stagger group transportation to avoid interaction at common housing areas, arrival and departure
- Review the maximum seating capacity for each vehicle to maintain safe distancing in vehicles on any modes of transportation provided by company
- Communicate to employees and drivers to ensure effective implementation of these safe distancing measures
- Provide hand sanitisers on vehicles for employees to disinfect their hands
- Ensure employees wear masks at all times and observe safe distancing
- Employers are advised to provide transportation to and from their respective workplaces and in doing so, avoid making intermediate stops in between the workplace and housing location
- Ensure that dedicated transportation is provided if employees are moving from their existing housing locations to alternative accommodations and avoid using public transport
- Refer to the latest advisory on Safe Management Measures for workers on employer-provided transportation
<https://www.mom.gov.sg/covid-19/advisory-on-safe-management-measures-for-workers-on-transportation>

(8) Hosting of Public Events/Performances

- For hosting events and performances, please seek the relevant authorities (e.g. STB, NAC, IMDA) for approval and adhere to the latest advisory:
 - <https://www.stb.gov.sg/content/stb/en/home-pages/advisory-for-MICE.html>
 - <https://www.nac.gov.sg/whatwedo/support/sustaining-the-arts-during-covid-19/Sustaining-the-arts-during-COVID-19.html>
- Event organiser to issue advisory and conduct briefing on good practices to adopt such as maintaining safe distance (at least 1 metre) and ensuring no intermingling between zones
- Ensure event staff are briefed on crowd control and safe distancing of attendees while queuing for restrooms
- Schedule staggered arrival and departure timings of attendees to reduce crowding situations at the entry and exit doors
- Put up signages reminding attendees to have masks on at all times, and no singing or cheering for the entire duration of the event

(9) Public Communications Preparedness

- Ensure drawer public statements are prepared and ready for issuance, to plan for situations if your company has confirmed COVID-19 case(s)

Advisories by various Government bodies, SafeEntry user guide and MOH Hotline

- Please refer to the following for the latest COVID-19 advisories and updates.

www.moh.gov.sg/covid-19

www.mom.gov.sg/covid-19/latest-advisories

www.mom.gov.sg/covid-19/advisory-on-safe-management-measures-for-workers-on-transportation
www.mom.gov.sg/covid-19/requirements-for-safe-management-measures
covid.gobusiness.gov.sg/safemanagement/general
covid.gobusiness.gov.sg/safemanagement/sector/
www.enterprisesg.gov.sg/covid-19
www.enterprisesg.gov.sg/covid-19/safe-distance
www.nea.gov.sg/our-services/public-cleanliness/environmental-cleaning-guidelines
<https://www.stb.gov.sg/content/stb/en/home-pages/advisory-for-MICE.html>
<https://www.nac.gov.sg/whatwedo/support/sustaining-the-arts-during-covid-19/Sustaining-the-arts-during-COVID-19.html>
www.safeentry.gov.sg/deployment/

- For information on TraceTogether-only SafeEntry, please refer to “Quick Start Guide to scan TraceTogether Token at your venue” at www.safeentry.gov.sg
- MOH Hotline at 1800-333-9999
- Report breaches or poor practices via SnapSAFE app
www.mom.gov.sg/eservices/snapsafe

Advisories

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Guidance on Improving Ventilation and Indoor Air Quality in Buildings amid the COVID-19 situation

1. Introduction

1.1 COVID-19 is mainly transmitted by close contact and respiratory droplets which are released when an infected person coughs, sneezes, talks, or sings. It can also be spread through virus aerosols in the air under certain settings, such as enclosed environments which are poorly ventilated. Hence, it is critical to mitigate this risk by improving ventilation and air quality in indoor environments.

1.2 This Guidance Note provides building owners and facilities managers with updated recommended measures to enhance ventilation and air quality in indoor spaces, through the proper operations and maintenance of air-conditioning and mechanical ventilation (ACMV)¹ systems. It is aimed at reducing disease transmission amid the current COVID-19 situation and resurgence of community cases. An earlier version of this document was issued on 29 May 2020.

1.3 This Guidance Note applies to non-residential premises where air-conditioning is used intermittently or continuously, as well as to naturally ventilated premises, with the exception of specialised premises² such as certain factory production areas, hospitals, polyclinics, and laboratories. Advice from subject matter experts and specialists should be sought for specialised premises.

1.4 Occupants of residential homes may improve home ventilation by opening doors and windows, especially when hosting non-household guests. Fans can be used to promote air circulation when needed.

1.5 The recommended measures in this Guidance Note should be accompanied by other key measures to reduce disease transmission, such as requiring building occupants to practise safe distancing, wearing masks, and carrying out regular disinfection of high-touch points within the building³.

1.6 A comprehensive plan should be created for safe management of indoor spaces, including developing communication plans to garner support from occupants, increasing ventilation, and ensuring supply of critical items such as filters. Managers should tailor the measures to each space, maximising ventilation while taking factors such as the type of ventilation system in the indoor space, the area of the indoor space, occupants' thermal comfort, and relative humidity into consideration. Indoor relative humidity should be closely monitored and maintained according to Singapore Standard [SS554: Code of Practice for Indoor Air Quality for Air-Conditioned Buildings](#).

2. Measures for air-conditioned premises with mechanical ventilation provision (e.g. centralised air-conditioning system)

2.1 Ensure that ventilation systems are in good working order:

- a. Check ACMV systems to ensure adequate ventilation in all occupied spaces, based on at least the minimum outdoor air supply rates specified in Singapore Standard [SS553: Code of Practice for Air Conditioning and Mechanical Ventilation in Buildings](#)⁴. Use of sensors and systems for monitoring outdoor air supply rate should be considered.
- b. Check AHUs/FCUs/PAUs/FAFs/EAFs⁵ daily to ensure continuous operation, especially in occupied spaces.
- c. Check all supply air diffusers and exhaust grilles to ensure airflow movement is in the correct direction.
- d. Maintain ACMV systems regularly. This includes inspecting and cleaning supply fans and exhaust fans to ensure optimal operation, checking of air ducts and dampers to ensure no air leakages or blockages, and checking filter seals to avoid air bypass. Recommended maintenance frequencies are specified in [SS554:2016 Annex H](#). Changing of filters should be done during non-operational periods, with the ACMV system turned off. Used filters should be properly disposed of in sealed bags. Maintenance staff should wear the appropriate PPE, comprising at least N95 masks, eye protection, and gloves, especially when changing filters.
- e. Check other systems to ensure there is no undesired air

leakage into occupied spaces, including water seals in the sanitary system, cracks in pipes and ducts, and wall gaps. Rectify faults detected.

2.2 Maximise ventilation for indoor air dilution: Maximise outdoor air intake and supply by setting

- a. AHUs/FCUs/PAUs/FAFs/EAFs to maximum speed and capacity with all air dampers (e.g. volume control dampers) opened fully. Increase outdoor air supply rate to 10 L/s/person if the system can accommodate this⁶.
- b. Deactivate demand control systems, such as those with CO₂ sensors, to avoid automatic reduction of outdoor air supply.
- c. Open all air dampers and do not block air ducts to ensure optimal provision of outdoor air to all occupied spaces.
- d. The air distribution system should be balanced to ensure outdoor air provision to all intended spaces.
- e. Operate exhaust fans (e.g. in toilets, kitchens) at full capacity to expel air from indoor spaces. Keep windows and other openings (e.g. back door) around exhaust fans closed to avoid short-circuiting of air flow.
- f. Install additional supply and/or exhaust fans if the existing system does not deliver sufficient outdoor air⁷.
- g. If the system does not allow for increasing the ventilation up to the recommended minimum per person requirement, consider reducing the maximum room occupancy.

2.3 Purge indoor air before occupancy:

- a. Perform air purging at least once a day and for at least two hours before each occupancy. Increased purging frequency can be considered for spaces with high disease transmission risk⁸.
- b. For buildings without air purging systems, extend operation of ACMV systems with outdoor air intake for two hours before and after each occupancy.

2.4 Minimise indoor air recirculation; use high-efficiency filters in AHUs to treat recirculated air:

- a. Set recirculation air dampers to a minimum.
- b. Use high-efficiency filters (at least MERV14 or F8 is recommended) in AHUs to treat recirculated air. Filters should be properly installed and maintained according to manufacturers' recommendation.
- c. Use of air-cleaning technologies such as ultraviolet germicidal irradiation (UVGI) in AHUs may be considered to augment MERV14 filters. Efficacy and safety of all air-cleaning devices under the operating conditions must be considered.

- d. Switch off rotatory heat changers or heat recovery wheels to reduce risk of carry-over leakage from exhaust air.

2.5 Increase ventilation in premises with limited ventilation and air filtration provision (e.g. meeting rooms with only FCU):

- a. Open operable windows and doors as frequently as possible⁹, unless outdoor/outside air quality is poor. Air-conditioning should be reduced or turned off when doors and/or windows are opened.
- b. Consider positioning fans at windows to blow air outwards and increase air exchange.
- c. Consider adding dedicated outdoor air supply and/or exhaust⁷.
- d. Where there is a high risk⁸ of disease transmission, portable air cleaners for localised air cleaning may be considered as an interim measure, in line with the recommendation for spaces without mechanical ventilation (please see section 3.3).

3. Measures for enclosed air-conditioned premises without mechanical ventilation provision (e.g. split-unit air-conditioners or FCUs without fresh air supply)

3.1 Increase ventilation and enhance air exchange:

- a. Open operable windows and doors as frequently as possible¹⁰, unless outdoor air quality is poor. Air-conditioning should be reduced or turned off when doors and/or windows are opened.
- b. Consider adding dedicated outdoor air supply and/exhaust¹¹.
- c. Operate exhaust fans (e.g. toilet, kitchen) at full capacity to expel air from the indoor space. Keep windows or other openings (e.g. back door) around exhaust fans closed to avoid short-circuiting of air flow.

3.2 Consider installing window-mounted exhaust fans to enhance ventilation:

- a. The fan system should at least provide the minimum air changes specified in SS553.
- b. Air supply and exhaust system can be aligned to provide uni-directional airflow in a poorly ventilated space.

3.3 In enclosed spaces with high risk¹² of disease transmission, portable air cleaners for localised air cleaning may be considered

as an interim measure:

- a. Portable air cleaners should be equipped with high-efficiency air filters such as HEPA filters, which are effective at removing virus aerosols.
- b. The clean air delivery rate (CADR) or equivalent of a portable air purifier should be used to determine the size and number of portable air cleaner devices needed in a space¹³.
- c. If present, the portable air cleaner's ozone generation function should be turned off to avoid exposure to excessive ozone levels and by-products, which may be hazardous to health.
- d. The use of portable air cleaners should be considered an interim measure. Air cleaning does not replace the need for adequate ventilation. Regular surface cleaning and disinfection¹⁴ should also continue, as portable air cleaners do not remove surface contamination.

3.4 Check other systems to ensure there is no undesired air leakage into occupied spaces, including water seals in the sanitary system, cracks in pipes and ducts, and wall gaps. Rectify faults detected.

4. Measures for naturally ventilated premises

4.1 Natural ventilation is weather dependent. It could be limited to the area around the windows and doors (perimeter zones), with little air exchange in the mid portion of the space (internal zones). Cross ventilation is significantly more effective than single-sided ventilation.

4.2 Increase natural ventilation with enhancement by fans:

- a. Keep windows and/or doors open at all times, unless outdoor air quality is poor or the weather condition does not allow.
- b. Position fans at windows to blow air outwards and increase air exchange
- c. Operate exhaust fans (e.g. toilet, kitchen) at full capacity to expel air from the indoor space. Keep windows or other openings (e.g. back door) around exhaust fans closed to avoid short-circuiting of air flow.

4.3 Consider installing window-mounted exhaust fans to enhance ventilation:

- a. The fan system should at least provide the minimum air changes specified in SS553.

- b. Air supply and exhaust system can be aligned to provide uni-directional airflow in a poorly ventilated space.

4.4 Check other systems to ensure there is no undesired air leakage into occupied spaces, including water seals in the sanitary system and cracks in pipes and ducts. Rectify faults detected.

5. More information and contacts

5.1 To assess the adequacy of ventilation, measurement of ventilation rate is required. If not possible, carbon dioxide levels at occupied areas may be used as a surrogate. According to SS554, high carbon dioxide levels, more than 700 ppm in excess of outdoor level, indicates poor ventilation or overcrowding. In view of the current COVID-19 situation, premises owners should achieve lower levels.

5.2 Further reference can be made to similar guidance documents published by ASHRAE¹⁵, REHVA¹⁶, WHO¹⁷ and SS553:2016 Annex D¹⁸.

5.3 Please feel free to contact the following officers if you need further clarifications.

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Guidance on improving ventilation and indoor air quality in buildings amid the COVID-19 situation



For air-conditioned spaces with mechanical ventilation provision (e.g. office buildings, shopping malls)



Ensure ventilation systems are in good working order



Maximise fresh air intake



Purge indoor air daily before occupancy



Reduce indoor air recirculation



Keep toilet exhaust fan running



For enclosed air-conditioned spaces without mechanical ventilation provision (e.g. retail shops with split-unit air-conditioners)



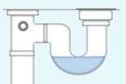
Open doors/windows frequently



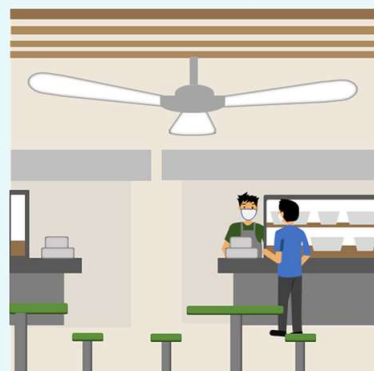
Consider window-mounted fan systems



Keep toilet exhaust fan running



Ensure intact water seal in sanitary system



For naturally ventilated premises (e.g. coffee shops, markets, dormitories)



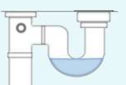
Keep windows and/or doors open



Install outward-facing fans at windows to increase ventilation



Keep toilet exhaust fans running; consider window-mounted fans



Ensure intact water seal in sanitary system

[1] ACMV systems include air handling units and fan coil units such as cassette- or wall-mounted types.

[2] Specialised premises refer to those with ACMV systems that fall outside the scope of [SS553: Code of Practice for Air Conditioning and Mechanical Ventilation in](#)

Buildings.

[3] <https://www.nea.gov.sg/our-services/public-cleanliness/environmental-cleaning-guidelines>

[4] For building/occupancy types not listed in SS553, ASHRAE 62.1 should be used as reference.

[5] AHU: air handling unit; FCU: fan coil unit; PAU: primary/pre-cool air handling unit; FAF: fresh air fan; EAF: exhaust air fan

[6] World Health Organization - Roadmap to improve and ensure good indoor ventilation in the context of COVID-19.

<https://www.who.int/publications/i/item/9789240021280>

[7] To avoid mould growth due to condensation caused by introduction of excessive humid outdoor air, outdoor air may be treated by a dedicated outdoor air processing system. The outdoor air system can be designed such that high-efficiency (MERV14 or F8) filters can be fitted when necessary. The filter will be useful during times when windows cannot be opened due to poor outdoor air quality.

[8] Such spaces include those where bioaerosol-generating procedures are performed on people (e.g. nasopharyngeal swab taking and dental procedures), where COVID-19 patients may be present, or where masks must be removed.

[9] European CDC: Heating, ventilation and air-conditioning systems in the context of COVID-19: first update, Nov 2020

[10] European CDC: Heating, ventilation and air-conditioning systems in the context of COVID-19: first update, Nov 2020

[11] To avoid mould growth due to condensation caused by introduction of excessive humid outdoor air, outdoor air may be treated by a dedicated outdoor air processing system. The outdoor air system can be designed such that high-efficiency (MERV14 or F8) filters can be fitted when necessary. The filter will be useful during times when windows cannot be opened due to poor outdoor air quality.

[12] Such spaces include those where bioaerosol-generating procedures are performed on people (e.g. nasopharyngeal swab taking and dental procedures), where COVID-19 patients may be present, or where masks must be removed.

[13] The size and number of portable air cleaner devices used shall be based on CADR. If the unit of CADR is in m³/h, the total CADR of the air purifier(s) should be at least five times the room volume in m³.

[14] <https://www.nea.gov.sg/our-services/public-cleanliness/environmental-cleaning-guidelines>

[15] American Society of Heating, Refrigerating and Air-Conditioning Engineers
<https://www.ashrae.org/technical-resources/resources>

[16] Federation of European Heating, Ventilation and Air Conditioning Association
<https://www.rehva.eu/activities/covid-19-guidance>

[17] World Health Organization - Roadmap to improve and ensure good indoor ventilation in the context of COVID-19.

<https://www.who.int/publications/i/item/9789240021280>

[18] SS553 Annex D is currently undergoing public comment process.

