National Environment Agency
Safeguard · Nurture · Cherish

40 Scotts Road, #13-00
Environment Building
Singapore 228231
www.nea.gov.sg

Reference No.: NEA-SCD-OM-CIR-ENVHYG-002

Date: 11 August 2021

Dear Sir/Madam

AEROSOL-GENERATING SYSTEMS (AGS)

Cooling Towers

All premises with cooling towers (CT), will be required to be registered, under the Environmental Public Health (Registrable Aerosol-generating Systems) Regulations.

2 Owners/occupiers with CT are required to register their CT **between the period from 6 September 2021 to 1 March 2022.**

3 Upon successful registration, owners/occupiers will be required to submit water quality test results to NEA at the frequency stipulated in the Regulations. The list of the water quality parameters to be tested and submitted can be found in the list of Frequently Asked Questions (FAQ) in **Annex A**.

4 The registration and the submission of water quality test results are to be submitted electronically via NEA ePortal (https://www.eportal.nea.gov.sg/category/Public%20Health). A step-by-step user guide for the registration and the submission of water quality test results of CT will be available in NEA website (https://www.nea.gov.sg/our-services/pollution-control/water-quality/aerosol-generating-systems).

FAQ and Further Enquiries

5 For more information, please refer to **Annex A** for the FAQ. For further enquiries, please let us know through the feedback form available on the NEA website at https://www.nea.gov.sg/feedback, myENV (https://www.nea.gov.sg/myenv) or OneService mobile applications.

6 Thank you.

KELVIN LIM
EXECUTIVE MANAGER
for DIRECTOR
SANITATION AND COMPLIANCE DIVISION
ENVIRONMENTAL PUBLIC HEALTH OPERATIONS GROUP
NATIONAL ENVIRONMENT AGENCY

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Annex A: FAQ for Aerosol Generating Systems (AGS)

Registration of Cooling Towers

1. What are the types of Aerosol-generating Systems (AGS) to be registered?

Cooling towers (CT) are required to be registered. The registration of these CT will facilitate traceability in the event of a water-borne disease outbreak.

2. Can owners/occupiers register more than one cooling towers in a single application?

In a single application, up to 5 cooling towers located within the same premises using the same postal code can be registered.

3. Whose CorpPass account should be used for registration?

CorpPass accounts of owners/occupiers are to be used for registration.

4. Will there be a fee for registration of AGS?

There will be a one-time registration fees of $70 per cooling tower system. One cooling tower system consists of **one or more cells sharing one common basin**.

5. May I have the illustration of various configurations of cooling tower systems?

The illustrations of various configurations of cooling tower systems can be found in the **Appendix 1** of FAQ.

6. Can 2 or more cooling tower basins connected by equalising/balancing piping or common pump suction header be considered as 1 cooling tower system, i.e. which requires only 1 registration?

When 2 or more cooling tower basins are connected by equalising/balancing piping or common pump suction header with separate basins, they are separate cooling tower systems as different basins might have different water quality due to differing conditions of each basin (e.g. tendency of microbial growth/biofilm accumulation, scaling and corrosion condition, etc.).

7. What is the validity period of a registration?

The registration of any cooling tower shall remain valid unless under the following scenarios in the table below:

S/N	Scenario	What do owners/occupiers need to do?
1	Change of ownership of the premises where cooling towers are installed	• The outgoing owners/occupiers are required to de-register their cooling towers in NEA ePortal. • The new owners/occupiers are required to register these cooling towers in NEA ePortal.
2	Change of location (postal code) of the premises where cooling towers are installed	• The existing owners/occupiers are required to de-register their cooling towers in NEA ePortal. • The existing owners/occupiers are required to register these cooling towers, using the new postal code, in NEA ePortal.

3	Replacement of cooling tower	• The existing owners/occupiers are required to de-register their cooling towers in NEA ePortal. • The existing owners/occupiers are required to register these cooling towers in NEA ePortal.

For **de-registration** in ePortal, owners/occupiers will not be able to de-register individual cooling tower if more than one cooling towers are registered under the same submission ID. Owners/occupiers are advised to approach NEA to de-register one or some of the cooling towers registered previously under the same submission ID.

8. Who is responsible to ensure that the cooling towers are registered and water quality results are submitted on time?

Owners/occupiers of the premises where the cooling towers are installed, are responsible for the registration and submission of the water quality results, even if they are outsourced to a contractor.

9. If owners/occupiers have previously registered their cooling tower(s) through submission of a manual form in Appendix A of Code of Practice for the Control of *Legionella* Bacteria in Cooling Towers, do they still need to register these cooling towers again in e-Portal and pay the registration fee when registration becomes mandatory?

Owners/occupiers who have previously registered manually are still required to re-register through the NEA ePortal and the registration fees will apply.

10. What do owners/occupiers need to do if their registered cooling tower is permanently shut down or demolished?

The owners/occupiers are required to de-register the cooling tower in NEA ePortal. For **de-registration** in ePortal, owners/occupiers will not be able to de-register individual cooling tower if more than one cooling towers are registered under the same submission ID. Owners/occupiers are advised to approach NEA to de-register one or some of the cooling towers registered previously under the same submission ID.

11. Can owners/occupiers amend their registration details in ePortal?

Owners/occupiers can amend all fields, except for “postal code” of cooling tower. For this field, the owners/occupiers are required to de-register the cooling tower in NEA ePortal and register the cooling tower in NEA ePortal, using the updated “postal code”.

12. If my registered CT is shut down for more than 5 consecutive days, what should I do?

If your registered CT is shut down for more than 5 consecutive days, you will need to log in to ePortal to notify NEA on the period of this shut down.

<u>Submission of Water Quality Test Results for Cooling Towers</u>

13. When will owners/occupiers be required to start submitting the water quality test results, after registering their cooling towers?

Owners/occupiers are required to start submitting the water quality test results via NEA ePortal, for the following month, after registering their cooling towers.

a. Heterotrophic Plate Count for the following month, after registering their cooling towers; and
b. *Legionella* Bacteria Count within the following 3 months, after registering their cooling towers

14. Whose CorpPass account should be used to submit the water quality test results for cooling towers?

The CorpPass accounts of either owners/occupiers or SAC accredited laboratories engaged by the owners/occupiers, are to be used for test result submissions. The list of SAC accredited laboratories can be found at https://www.sac-accreditations.gov.sg/Pages/Homepage.aspx.

15. Will there be a fee for submission of water quality test results for cooling towers?

The is no fee for submission of water quality test results for cooling towers.

16. When is the deadline to submit water quality test results?

The water quality lab results for cooling towers, for samples collected and tested in a particular month shall be submitted no later than 14th of the subsequent month.

17. Can more than one test results be submitted in a single submission?

A standard excel template through bulk upload function in the NEA ePortal can be used to submit more than one test results.

18. What happen if failed water quality test results are submitted?

If the CT does not comply with the requirement limits for water quality, the owners/occupiers may take the following steps:

i. Disinfect CT as soon as practicable within 3 days after date of failed test result report;
ii. Do another round of water quality sampling within 24 hours after disinfection and ensure that the water quality complies with the regulated limits; and
iii. Submit the test results to NEA via NEA ePortal within 7 days after completion of test (date of test results).

19. Will NEA take enforcement actions for late submission of water quality test results?

NEA will take enforcement actions for results submitted after 14th of the following month.

20. Where do we collect water samples for cooling towers with completely partitioned basins?

Water samples for cooling towers with completely partitioned basin can be collected from the drain pipe of each cooling tower.

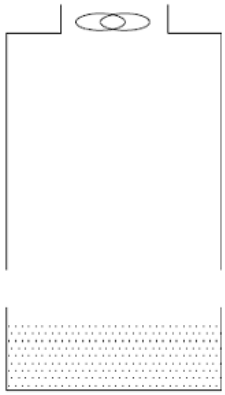
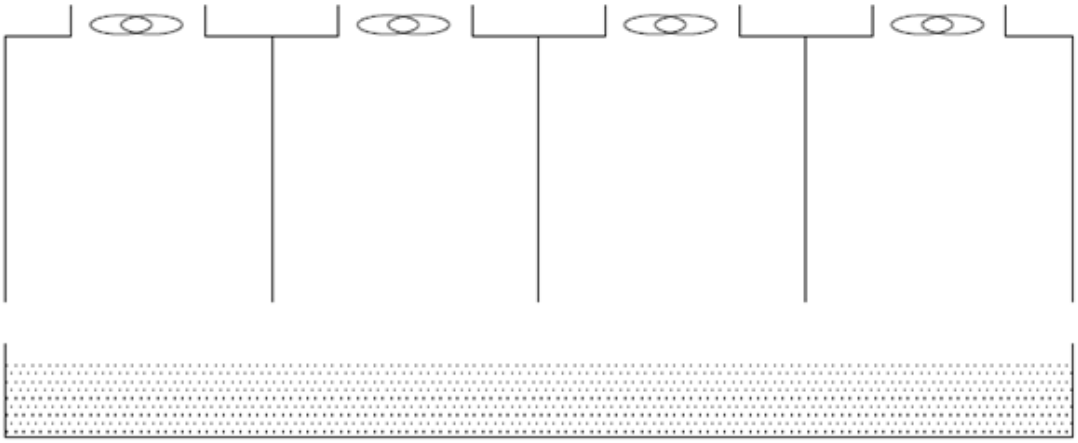
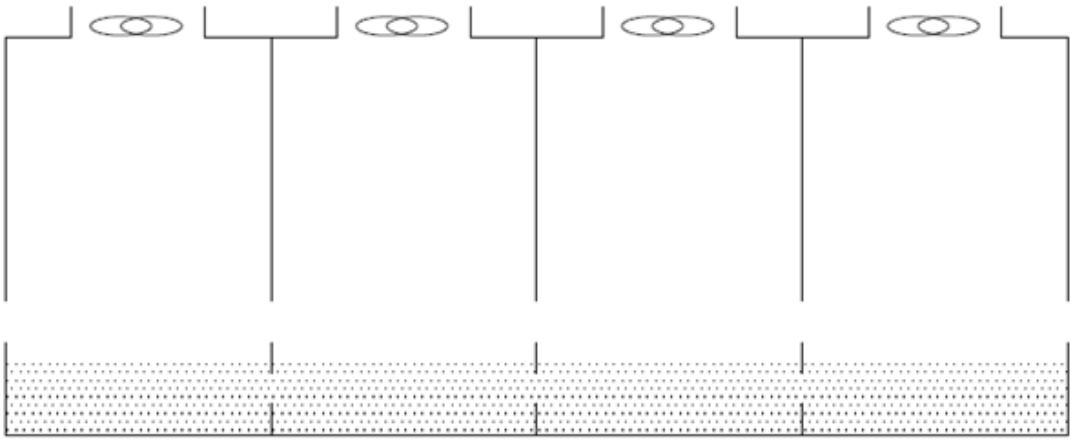
21. If there is only 1 failed parameter in water quality test results of a cooling tower, does owner need to re-test both required routine parameters or re-test the failed parameter only?

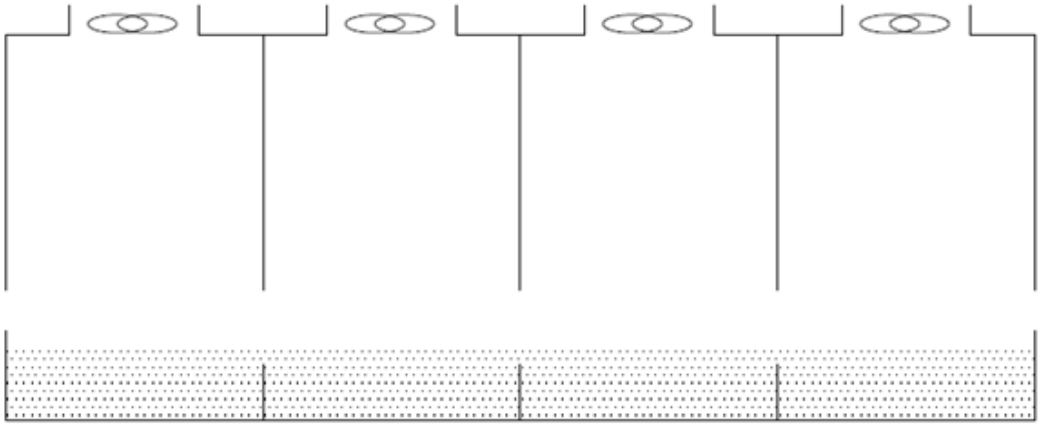
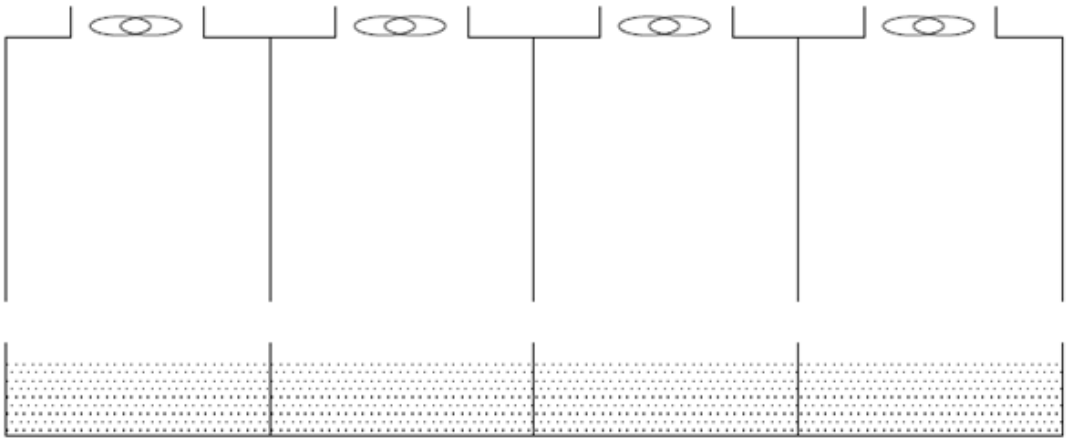
If one or more water quality test parameters were found not to comply with regulatory limits, owner should thoroughly clean and disinfect the cooling tower and re-test both required routine test parameters as the water quality may not be the same as of the last test.

22. Can laboratory test result submission reminders be sent to the laboratory engaged by the owners as well?

Laboratory test result submission reminders are sent to owners as they are responsible to ensure that their engaged laboratories submit the lab test results to NEA at the stipulated frequency.

Appendix 1: Illustrations of Various Configurations of Cooling Tower Systems

S/N	Various Configurations
1	Configuration: 1 cell with 1 basin Number of registration required: 1 
2	Configuration: 4 cells sharing 1 common basin Number of registration required: 1 
3	Configuration: 4 cells with partially partitioned basins (water can pass through partition from 1 basin to another basin) Number of registration required: 1 

4	Configuration: 4 cells with partially partitioned basins (water can flow over partition from one basin to another basin) Number of registration required: 1 
5	Configuration: 4 cells with completely partitioned basins (water cannot flow through or over partition from one basin to another basin) Number of registration: 4