NOTIFICATION

The following notification is being circulated in accordance with Article 10.6

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| **1.** | **Notifying Member:** Singapore **If applicable, name of local government involved (Article 3.2 and 7.2):**  |
| **2.** | **Agency responsible:** National Environment Agency (NEA)**Name and address (including telephone and fax numbers, email and website addresses, if available) of agency or authority designated to handle comments regarding the notification shall be indicated if different from above:**  |
| **3.** | **Notified under Article 2.9.2 [****X],** **2.10.1 [****],** **5.6.2 [****X],** **5.7.1 [****],** **other****:**  |
| **4.** | **Products covered (HS or CCCN where applicable, otherwise national tariff heading. ICS numbers may be provided in addition, where applicable):** i) Water-cooled chillers HS: 8418 694X Water-cooled chillers for air-conditioning purposes (not being recycled or used goods) with refrigeration capacity more than or equal to 1055kW. "Water-cooled chiller" means a factory-made and prefabricated assembly (whether or not it is shipped as one package) comprising one or more of each of the following: (a) a compressor; (b) a water-cooled condenser; (c) an evaporator, with interconnections and accessories, designed to produce chilled water by using a vapour compression refrigeration cycle to remove heat from chilled water in the evaporator and reject the heat to water in the condenser. ii) Air-conditioners HS: 8415 10XX Single-phase non-ducted split type inverter and split type non-inverter room air-conditioner (not being recycled or used goods) having a cooling capacity of 17.6 kW or lower. Single-phase variable refrigerant flow (VRF), casement, and window type air-conditioners are excluded from the scope. "Single-phase non-ducted room air-conditioner" means an encased assembly or assemblies of one or more evaporators, compressors and condensers, designed to be used as a permanently-installed piece of equipment to provide conditioned air to any enclosed space. It includes a prime source of refrigeration for cooling and dehumidification and may include other means for dehumidifying, circulating and cleaning the air. Split type (inverter) air-conditioner means an assembly of components of a refrigeration system fixed on 2 or more mountings to form a matched functional unit that employs technologies that vary the output of the compressor, by means other than start-stop operation. Split type (non-inverter) air-conditioner means an assembly of components of a refrigeration system fixed on 2 or more mountings to form a matched functional unit that employs technologies that vary the output of the compressor by start-stop operation. Variable refrigerant flow (VRF) air-conditioner: a multi-split system is of variable refrigerant flow or VRF type if it has one or more outdoor units comprising a single refrigerant circuit, each of which has a set of refrigeration ports that services the network of indoor units through branch piping or distribution devices or both. Casement or window type air-conditioner means an assembly of components of a refrigeration system fixed on a common mounting to form a single unit. iii) Refrigerators HS 8418 101X, 8418 21XX Single-phase refrigerators (not being recycled or used goods) with an adjusted volume of up to 900 litres. "Single-phase refrigerator" means an assembly consisting of a thermally insulated cabinet for the storage and preservation of foodstuffs above 0°C (32°F) and a refrigerating unit operating on the vapour compression principle and arranged to extract heat from within the cabinet, whether or not with one or more freezer compartments. The adjusted volume of the refrigerator is defined as the sum of the adjusted volumes of the compartments or sections of the refrigerator, where the adjusted volume of a compartment or section is the product of the rated volume of that compartment or section with the corresponding volume correction factor (K) found in the following table:

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| **Type**  | **K** |
| Fresh food | 1.00 |
| Four-star freezer | 1.79 |
| Three-star freezer | 1.79 |
| Two-star freezer | 1.57 |
| One-star freezer | 1.36 |
| Chill | 1.13 |
| Cellar | 0.75 |

The compartment/section types are defined in accordance with Section 3.3 of ISO 15502:2005. |
| **5.** | **Title, number of pages and language(s) of the notified document:** Environmental Protection and Management (Amendment) Bill |
| **6.** | **Description of content:** This notification is to inform Members that Singapore/NEA proposes to enact new legislation for refrigeration and air-conditioning (RAC) equipment (as specified in item 4) that use high Global Warming Potential (GWP) refrigerants, and are supplied or for sale in Singapore. The criterion and specifications (e.g. capacity and usage) of the goods to be regulated will be stipulated in the Subsidiary Legislations.The regulatory requirements are:* the applicable RAC equipment must be registered with NEA, and
* its refrigerant must meet the following GWP[1] levels:
1. For water-cooled chillers, GWP of refrigerant must be less than or equal to 15.
2. For air-conditioners, GWP of refrigerants must be less than or equal to 750.
3. For refrigerators, GWP of refrigerants must be less than or equal to 15.

[1] The GWP values of the greenhouse gas refers to the 100-year warming potential of 1kg of GHG, blend or mixture which will be aligned with the Fifth Assessment Report of the United Nation's (UN) Intergovernmental Panel on Climate Change (IPCC). In addition, the GWP value of HCFC-31, not found in the Fifth Assessment Report, will be aligned with the Scientific Assessment of Ozone Depletion 2018. For refrigerant blends/mixtures, the GWP of refrigerant blends/mixtures will be calculated as a mass-weighted average of GWP of the individual components.The GWP thresholds (GWP of 15 and 750 for specified equipment) were based on the following considerations in Singapore's context:1. Availability of lower GWP alternatives
2. Better energy efficiency performance of lower GWP alternatives
3. Low costs of adoption, when energy cost savings are factored.
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| **7.** | **Objective and rationale, including the nature of urgent problems where applicable:** **Objective**: For the purposes of mitigating Singapore's greenhouse gas emissions and in support of global goals stipulated under the Paris Agreement. **Rationale:** HFCs are greenhouse gases with high GWP and are commonly used as refrigerants in household, commercial and industrial RAC applications. The imposition of maximum GWP levels will facilitate industry's switch to low-GWP refrigerants and reduce reliance on high-GWP refrigerants, thereby lowering emissions of greenhouse gases; Protection of the environment |
| **8.** | **Relevant documents:** 1. Environmental Protection and Management Act (version in force from 12 February 2020)

The Environmental Protection and Management Act is available online at <https://sso.agc.gov.sg/> |
| **9.** | **Proposed date of adoption:** Notice will be published on the date of adoption**Proposed date of entry into force:** Notice will be published prior to the date of entry into force |
| **10.** | **Final date for comments:** 60 days from notification |
| **11.** | **Texts available from: National enquiry point [****X]** **or address, telephone and fax numbers and email and website addresses, if available, of other body:** Mr Ng Pei ChenPrincipal Engineer, Labelling & Standards Department, Carbon Mitigation Division 40 Scotts Road, #19-00 Environment BuildingSingapore 228231Tel.: (65) 6731-9113 (DID)Fax: (65) 6235-2611Email: ng\_pei\_chen@nea.gov.sgMs Ng Jie Yu JaneExecutive Engineer, Labelling & Standards Department, Carbon Mitigation Division 40 Scotts Road, #19-00 Environment BuildingSingapore 228231Tel.: (65) 6731-9911 (DID)Fax: (65) 6235-2611Email: jane\_ng@nea.gov.sg |