



## GreenChill Store Certification Program Guidance

The following document provides guidance on meeting the GreenChill store certification requirements and completing either the [newly constructed store](#) or [operational store](#) application form.

### Guidance on the Certification Program:

1. GreenChill certification is valid for one year from the date of the certification award.
2. GreenChill certification may be re-earned annually, as long as a store meets the certification criteria on an annual basis. To apply for recertification, the [recertification application form](#) may be used. A store that achieves certification for several years may receive “continued excellence” awards.
3. A store that was previously certified but is unable to meet the certification criteria for a particular year will not be re-certified for that year. The store may reapply for certification at any time after its certification has expired and will be re-certified once the store is able to meet the certification criteria. The store can continue to be re-certified for all years that it is able to meet the criteria.
4. There is **no fee to apply** for GreenChill certification. The only cost associated with GreenChill certification is the cost to order the optional platinum-level, gold-level, or silver-level plaque award. Every store awarded certification automatically receives a GreenChill certificate.
5. GreenChill reserves the right to verify the information submitted by a store for certification, including, but not limited to, inspection of the store, requesting third party certification, and/or requesting copies of store records related to the certification criteria.

### Guidance on the Certification Application Forms:

Three application forms are available for stores applying for GreenChill certification; **(1) the Newly Constructed Store form** **(2) the Operational Store form**, and **(3) the Recertification form**. Stores must submit the form that is appropriate to the condition of the store at the time of application. For store *remodel* projects, please contact [GreenChill@epa.gov](mailto:GreenChill@epa.gov) to determine whether the newly constructed store form or the operational store form needs to be filled out.

## Guidance on Meeting the Certification Requirements:

1. **Certification Criteria:** GreenChill’s decision to award a store with certification is based on several criteria, which are listed in Table 1 below. Each criterion applies to and is based on different types of refrigerant-containing equipment. For instance, the refrigerant emissions rate criteria applies to and is based solely on the store’s remote commercial refrigeration equipment, while the requirement that refrigerants be non-ozone-depleting applies to and is based on all three types of refrigerant-containing equipment in the store.

**Table 1: Equipment Included in Each Certification Criterion**

CERTIFICATION CRITERIA	INCLUDED EQUIPMENT		
	Self contained commercial refrigeration equipment	Remote commercial refrigeration equipment	HVAC Equipment
Refrigerant charge (lbs.)		✓	
Total load (MBTU/Hr)		✓	
Refrigerant emissions rate (lbs.)		✓	
Non-ozone-depleting refrigerant	✓	✓	✓
SNAP-approved refrigerant	✓	✓	✓
GreenChill’s Installation leak Tightness standards (newly constructed stores only)		✓	

2. **Refrigerant Charge:** A store’s refrigerant charge is the total pounds of refrigerant that are charged into a store’s commercial refrigeration equipment.
3. **Combined Systems:** If your store’s remote commercial refrigeration system is combined with your stores air conditioning system, it will not be possible to separate air conditioning emissions from commercial refrigeration emissions. It similarly will be difficult to separate air conditioning charge from commercial refrigeration charge. Please refer to the [GreenChill Store Certification Protocol for Combined Refrigeration and Air Conditioning Systems](#) for more information on how to report data for combined systems.
4. **Total Load:** A store’s total load shall include all BTUs associated with refrigeration. This includes the BTU output of all remote commercial refrigeration equipment but **SHALL NOT** include the BTU output of all self-contained commercial refrigeration equipment (i.e. soda machines, vendor supplied coolers, ice machines, refrigerators in deli areas, etc.). The total load **ALSO SHALL NOT** include sub-cooling, heat of rejection, pump heat, or any BTUs associated with air conditioning loads. *Note: The total load is not the rack rating or compressor capacity, which is typically larger than the total load.*

5. **Prep Room Refrigeration:** Sometimes it can be unclear whether BTUs used for ‘prep room refrigeration’ should be considered air conditioning or refrigeration. Please refer to the [GreenChill Store Certification Protocol for Stores with Prep Room Refrigeration](#) for more information on how to report data associated with prep room refrigeration.
6. **Separate Racks for Sub-Cooling:** Sub-cooling racks may sometimes be separate from the racks containing the commercial refrigeration equipment. Please refer to the [GreenChill Store Certification Protocol for Sub-Cooling Contained on Racks Separate from Refrigeration Equipment](#) for more information on how to report data associated with sub-cooling.
7. **Refrigerant Charge/Total Load:** GreenChill uses the store’s refrigerant charge and the store’s total load to calculate the pounds of refrigerant per MBTU/hr. Pounds of refrigerant per MBTU/hr. is calculated as follows:

$$\frac{\text{Refrigerant Charge (lbs.)}}{\text{Total load (MBTU/hr.)}} = \text{lbs. of refrigerant per MBTU/hr.}$$

8. **Annual Emissions:** Each store applying for GreenChill gold-level or silver-level certification must achieve an annual emissions rate of no more than 15% of the commercial refrigeration system’s refrigerant charge. For platinum-level certification, stores must achieve an annual emissions rate of no more than 5% of the commercial refrigeration system’s refrigerant charge. The amount of refrigerant emitted over the period of one year is equal to the amount of refrigerant lost from the store's commercial refrigeration equipment and systems. The emissions rate is calculated as follows:

$$\frac{\text{Amount of refrigerant emitted over the period of one year}}{\text{System Refrigerant Charge}} \times 100 = \text{Annual emissions rate (\%)}$$

9. **Ozone Depletion:** As indicated in Table 1 above, all refrigerants used in the store, including the refrigerants in all types of self-contained equipment (soda machine in the break rooms, ice machines, deli refrigerators, etc.), must be non-ozone-depleting refrigerants. The most common ozone-depleting refrigerant used in supermarkets is HCFC-22. For a list of all Class I and Class II ozone-depleting refrigerants, see <http://www.epa.gov/ozone/science/ods/classone.html>
10. **Non-Ozone Depleting Alternatives:** For the list of substitute refrigerants that EPA’s SNAP Program has found to be acceptable alternatives to ozone-depleting refrigerants in commercial refrigeration, see <http://www.epa.gov/ozone/snap/refrigerants/lists/foodref.html>
11. **Leak Testing:** All newly constructed store certification applications must include verification that the commercial refrigeration system was tested for leaks according to [GreenChill’s Installation Leak Tightness Testing Guidelines](#).

Please direct any questions to [GreenChill@epa.gov](mailto:GreenChill@epa.gov).