



GreenChill Advanced Refrigeration Partnership



***Food Retailer Certification Standards
for Advanced Refrigeration Technology***



Webinar Agenda

- ▶ 2:00 - 2:20 Intro & explanation of the certification program - Keilly
- ▶ 2:20 - 2:40 Advanced refrigeration technology and GreenChill's certification standards – OEMs
- ▶ 2:40 - 3:00 Q&A



GreenChill Certification

- ▶ Sets standards for store recognition for “GreenChill Certified” advanced refrigeration technology
 - ▶ Gold Level Certification & Silver Level Certification
 - ▶ Reduced Refrigerant Charge (lbs. of refrigerant p. 1000 BTUs/hr.)
 - ▶ Low Emissions Rate
 - ▶ No Ozone-Depleting Refrigerants
 - ▶ Only allowed to use refrigerants found acceptable for retrofits by EPA’s SNAP Program
- ▶ More details at <http://www.epa.gov/greenchill/certcenter.html>



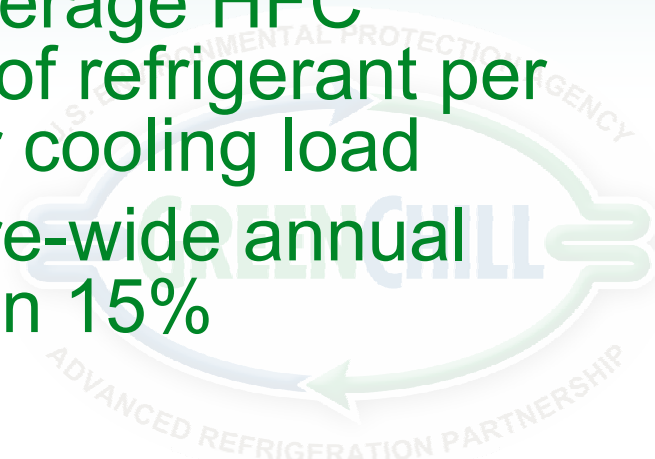
Gold-Level Certification

- ▶ Two ways to qualify
- ▶ Meet all the criteria under A or meet all the criteria under B
- ▶ Criteria under A are for HFC-Based Refrigeration Systems
- ▶ Criteria under B are for Refrigeration Systems using Low-GWP Refrigerants



A. HFC-Based Refrigeration Systems

- ▶ The store's refrigeration systems must use refrigerants with zero ozone-depleting potential
- ▶ The store's refrigeration systems must use refrigerants that have been found acceptable by EPA's Significant New Alternatives Policy Program (SNAP) for use in retail food refrigeration end-uses
- ▶ The store must achieve an average HFC refrigerant charge ≤ 1.25 lbs. of refrigerant per 1000 BTU/hr. total evaporator cooling load
- ▶ The store must achieve a store-wide annual emissions rate of no more than 15%



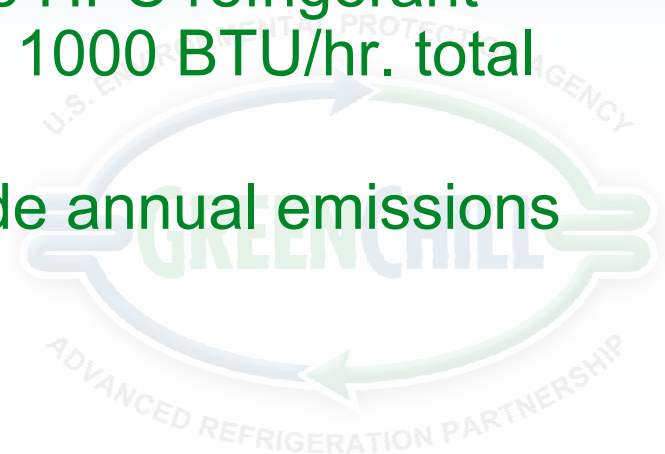
B. Refrigeration Systems using Low-GWP Refrigerants

- ▶ The store's refrigeration systems must use refrigerants with zero ozone-depleting potential
- ▶ The store's refrigeration systems must use refrigerants that have been found acceptable by EPA's Significant New Alternatives Policy Program (SNAP) for use in retail food refrigeration end-uses
- ▶ All refrigerants used in the store must have global warming potentials lower than 150



Silver-Level Certification

- ▶ One way to qualify; one set of criteria
- ▶ The store's refrigeration systems must use refrigerants with zero ozone-depleting potential
- ▶ The store's refrigeration systems must use refrigerants that have been found acceptable by EPA's Significant New Alternatives Policy Program (SNAP) for use in retail food refrigeration end-uses
- ▶ The store must achieve an average HFC refrigerant charge ≤ 1.75 lbs of refrigerant per 1000 BTU/hr. total evaporator cooling load
- ▶ The store must achieve a store-wide annual emissions rate of no more than 15%



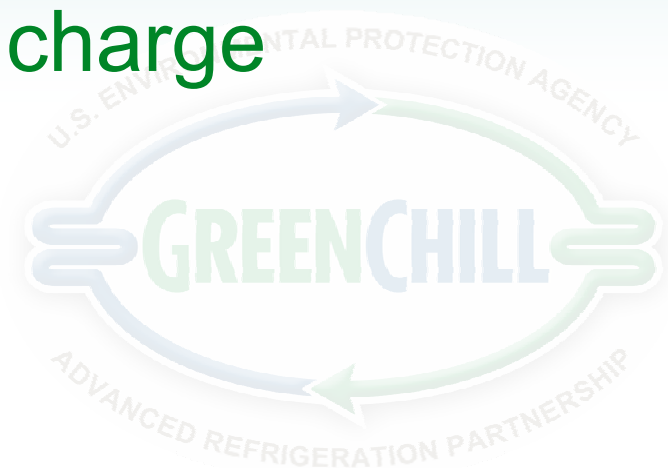
Guidance on Meeting the Certification Criteria

- ▶ Forms will be available on line
- ▶ Step-by-step instructions for newly constructed stores and stores that have been fully operational for 12 months



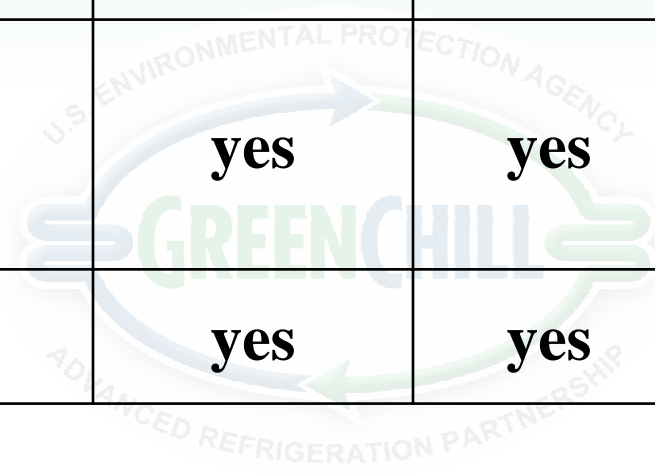
Guidance on Meeting the Certification Criteria

- ▶ Applies only to a store's commercial refrigeration system
- ▶ Does not apply to the store's HVAC system (split systems or self contained).
- ▶ BTUs/hr. of the HVAC system may not be included in the refrigerant charge calculations



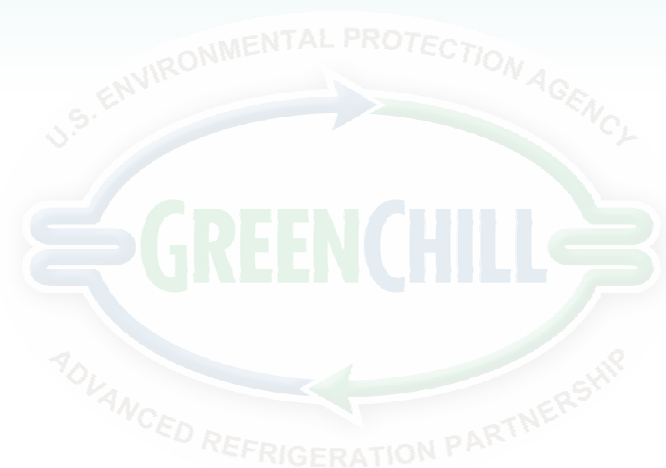
Guidance on Meeting the Certification Criteria

Included equipment	BTU Calc.	Refrigerant leaked	Refrigerant Stocked	Non-ozone-depleting Refrigerant	Snap approved refrigerant
Self contained Commercial refrigeration equipment	no	yes	yes	yes	yes
Remote commercial refrigeration equipment	yes	yes	yes	yes	yes
HVAC Equipment	no	no	no	yes	yes



Guidance on Meeting the Certification Criteria

- ▶ For the list of acceptable SNAP alternatives for retail food refrigeration see <http://www.epa.gov/ozone/snap/refrigerants/lists/foodref.html>



Guidance on Meeting the Certification Criteria

- ▶ The lbs. of refrigerant per 1000 BTU/hr. criteria is based upon adding the store's total remote commercial refrigeration evaporator heat load, including food merchandisers, food prep rooms, and food storage rooms
- ▶ Note: It is not the rack rating or compressor capacity, which is typically larger than the calculated load



Guidance on Meeting the Certification Criteria

- ▶ Each and every store applying for GreenChill certification must achieve an annual emissions rate of no more than 15%. The emissions rate is calculated as follows:

$$[(\text{amount of refrigerant emitted over the period of one year} \div \text{the refrigerant stock}) \times 100] = \% \text{ annual emissions rate}$$



Guidance on Meeting the Certification Criteria

- ▶ The amount of refrigerant emitted over the period of one year is equal to the amount of refrigerant lost from
 - ▶ the store's self contained commercial refrigeration equipment
 - ▶ remote commercial refrigeration equipment



Guidance on Meeting the Certification Criteria

- ▶ GreenChill certification may be re-earned annually
 - ▶ store must meet the certification criteria on an annual basis
- ▶ A store that achieves certification for several years may receive “continued excellence” awards.



Guidance on Meeting the Certification Criteria

- ▶ A store that is unable to achieve the certification criteria in a particular year will lose its certification for that year
- ▶ If that store is able to meet the certification criteria in a subsequent year, it will be re-certified for that year and each of the following years that it is able to meet the criteria



Guidance on Meeting the Certification Criteria

- ▶ 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



Special Thanks!

- ▶ Special thanks to the GreenChill partners who helped develop this program:
 - ▶ Jon Perry – Farm Fresh / Supervalu
 - ▶ Scott Martin – Hill Phoenix
 - ▶ Steve Hagler – Hussmann
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For More Info

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