



C A L I F O R N I A E N E R G Y C O M M I S S I O N

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Informal Proceeding

To Remove Turbo Air Commercial Refrigerators
models from the Appliance Database

Efficiency Committee

April 26, 2010

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California Energy Commission



Overview:

- Background
- Initial inquiry
- Testing and results
- Recommendation
- Discussion



Background:

- A state energy consumption standard for commercial refrigerators has been in effect since August of 1987.
- The formula for determining the maximum daily energy consumption (the standard) is based upon the type of commercial refrigerator, the interior measured volume, and the door style.
- Commercial refrigerators manufactured on or after January 1, 2010 are subject to federal standards.



Background:

- The Turbo Air commercial refrigerator models that are part of this proceeding are.
 - TSR-23SD – Certified on 12/16/2002
 - TUR-28SD – Certified on 1/9/2003
- The models in question were manufactured in 2008 and 2009.
- Standard in effect for these two models is based upon the following calculation:
 - $0.10 \times \text{measured volume (in Cu ft)} + 2.04$



Receipt of inquiry:

On April 15, 2009 the Appliance Efficiency Program was contacted by a representative from the Consortium for Energy Efficiency.

That individual stated that Turbo Air may have reported disparate total volume and energy consumption data on three of its commercial refrigerator models as follows:



Receipt of inquiry:

Model #	Total volume (Cu Ft)	Daily Energy Use (kWh)	Where Reported	CA Standard (kWh)
TSR-23SD	21.1	3.58	Energy Commission	4.15
	22.99	5.148	NRCan	
	---	---	EnergyStar	
	---	---	Food Svc Tech Center	
TSR-49SD	46	6.12	Energy Commission	6.64
	49	7.652	NRCan	
	49	5.3	EnergyStar	
	---	---	Food Svc Tech Center	
TUR-28SD	6.9	1.46	Energy Commission	2.73
	7.29	3.218	NRCan	
	---	---	EnergyStar	
	6.9	1.46	Food Svc Tech Center	



Testing performed:

(Per Section 1608(e) of Regulations)

At the direction of the Energy Commission, independent test laboratory BR Laboratories, Inc. purchased and tested one unit of each of these models.

One model (TSR-49SD) when tested was found to comply with state standards. That model is not included in today's proceeding.

The results of the tests of the remaining models are as follows:



First Test:

December 2009

Turbo Air Model #	Serial #	Actual measured vol. when tested	Max. daily energy use	Max. kWh per day as tested	Pass / Fail
TSR-23SD	DR23307063	19.3	3.97	5.105	Fail
TUR-28SD	U200406036	7.0	2.74	3.612	Fail



Second Test:

January 2010

Turbo Air Model #	Serial #	Actual measured vol. when tested	Max. daily energy use	Max. kWh per day as tested	Pass / Fail
TSR-23SD	BM2R405003	19.3	3.97	3.132	Pass
TUR-28SD	U200406028	7.0	2.74	3.465	Fail



Mean of Test Results:

Turbo Air Model #	Actual measured vol. when tested	Max. daily energy use	Mean of the two test results	Pass / Fail
TSR-23SD	19.3	3.97	4.1185	Fail
TUR-28SD	7.0	2.74	3.5385	Fail



Recommendation:

Referral of this matter by the Efficiency Committee to a full Commission business meeting for a vote on the following:

1. Removal of model TSR-23SD from California Energy Commission's Appliance Efficiency Database.
2. Removal of model TUR-28SD from the California Energy Commission's Appliance Efficiency Database.



Discussion: