

Letter
I4

From: Richard Fennelly
To: CAP
Subject: Our Energy Efficiency Suggestion for San Diego
Date: Tuesday, August 15, 2017 3:57:00 AM
Attachments: Coil Cleaning Fact Sheet.docx
 COILPOD Energy Savings Data.docx
 Fridenbero Letter 2.pdf

Very few owners of refrigeration or freezer units bother to keep the condenser coils in their plug-in appliances clean --- a refrigeration expert stated "Eighty percent of the owners never clean the coils; the remaining 20% do it too infrequently". Attached is some information on the significant electric energy savings possible (hundreds of dollars per unit for commercial coolers, for example).

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We have much more information to share if you want to explore this topic as a new energy savings initiative.

Regards



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Response to Comment Letter I4

Richard Fennelly
August 15, 2017

I4-1 The comment and the enclosed attachments provide information on the benefits of regularly cleaning refrigerator coils. This comment does not address the adequacy of the Draft SEIR. However, the comment will be included in the Final EIR and made available to the decision makers prior to a final decision on the project.

CONDENSER COIL CLEANING: FACT SHEET

The vast majority of self-contained condenser coils now in service are not cleaned under existing preventative maintenance protocols: they are allowed to run dirty.

One refrigeration expert recently stated: "Eighty percent of operators do nothing, no maintenance, ever. Maybe 20% do some, but not enough".
Source: Refrigeration Magazine December, 2015.

Coils need cleaning at least quarterly for: (a) reduced electrical usage; (b) reduced service calls; and (c) prolonged equipment life. Dirty coils are the main reason for service calls. With routine quarterly maintenance, operators have virtually no breakdowns. *Sources: Food Service Technology Center (FSTC), San Ramon, CA and Refrigeration Magazine December, 2015.*

Exemplary yearly savings PER UNIT if the coils are clean: Electric energy savings of from \$220 to \$625, depending on the type and size of unit (or from about 46% to 50% electric savings). *Source: Cool Savings Project – FSTC and the City of San Francisco.*

Compressed air is needed to quickly and effectively remove deeply deposited dirt/debris inside the coil's structure. *Source: CoilPod LLC (manufacturer of the COILPOD dust hood – described at www.coilpod.com).*

Contact for More Information:

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CONDENSER COIL CLEANING: ACTUAL DATA

The data presented below was developed by the Food Service Technology Center (San Ramon, CA)/City of San Francisco Environment Department and announced at the RFMA (Restaurant Facility Managers Association) and CPESA (Commercial Food Equipment Service Association) 2015 annual conventions. The electric rate was at \$0.11/Kwh ---- appropriate revision to differing electric rates is needed:

Double Door Merchandiser (6 years old):

Dirty: \$1325/year/unit

Clean: \$700/year/unit

Wasted Electric: 89.3% = \$625/year/unit

Larger Double Door Fridge:

Dirty: 24 kwh/day/unit = \$950 /year/unit

Clean: 13 kwh/day/unit = \$517/year/unit

Wasted Electric: 83.8% = \$433/year/unit

Single Door Freezer:

Dirty: \$546/year/unit

Clean: \$289 /year/unit

Wasted Electric: 88.9% = \$257/year/unit

Double Glass Door Fridge:

Dirty: \$439/year/unit

Clean: \$219/year/unit

Wasted Electric: 100.5% = \$220/year/unit

Additionally, the following three data points (savings information only) were announced at the 2015 RFMA meeting from three restaurants: (1) glass door merchandiser: \$300/year savings; (2) glass door merchandiser: \$600/year savings; and (3) solid door refrigerator: \$590/year savings. The average of all seven data points reported herein: \$432/year savings for what we believe were very badly clogged units, perhaps not an uncommon situation.

In August 2017, a summary report was released stating that a total of 10 units were examined with coil cleaning giving savings ranging widely from 2% to 49%, with the average being 17%. In the first four data points given above the average running cost for a unit with dirty coils was \$815/cooler/year. A 17% savings for these four units stemming from coil cleaning averages \$138 at \$0.11 Kwh.

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Australian Government
Department of the Environment and Energy

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Mr Richard Fennelly
CoilPod LLC
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Dear Mr Fennelly

Thank you for your email of 29 August 2016 to the Minister for the Environment and Energy, the Hon Josh Frydenberg MP, about the savings to be made from cleaning of condenser coils in commercial coolers. The minister has passed your letter to me for reply.

The Department of the Environment and Energy agrees that regular and systematic cleaning of condenser coils in commercial coolers improves operating efficiency of commercial refrigeration and air conditioning systems. These improvements in efficiency could translate into substantial savings for businesses on their electricity bills and help reduce our emissions of greenhouse gases from electricity generation. For these reasons, the department would encourage businesses to establish a system for regular and thorough cleaning of the condenser coils in their commercial coolers.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Gary James', written over a light blue horizontal line.

Gary James
Acting Assistant Secretary
Appliance Energy Efficiency Branch
22 September 2016