



**City of
Portland, Oregon
Bureau of Development Services**

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To: Markus Stoffel and Charlie Stephens

From: Alternative Technology Advisory Committee:

Edward Vranizan (chair)	Samir Mokashi (vice-chair)
Aron Faegre	Joshua Klyber
Ron Hays	Kathy Bash
Peter Dusicka	

RE: Application #4 – Additional Items Required

Date: January 22, 2010

The Alternative Technology Advisory Committee held the first meeting to review your application on January 7, 2010. The following outlines the additional information required for the Committee to make a recommendation on your proposal, and instructions on how to submit the information.

Summary of Proposal: The applicants have requested that the Committee review a proposal to install a Sanyo CO₂ ECO heat pump system that uses carbon dioxide as a refrigerant instead of chlorofluorocarbons. The benefits of this system include significantly reduced ozone depletion from refrigerant leakage and wider operational temperature range capable of heating water to 150° F from air as cold as 0° F. The Sanyo CO₂ ECO heat pumps have been in use in Europe for four years with CE certification, but have not been certified by a recognized testing agency in the United States.

Applicable Building Code Section(s): 2008 Oregon Electrical Specialty Code (NEC) 110.2 Electrical equipment shall be listed, labeled and approved.

Summary of Committee Review To-date: The Committee was generally supportive of the heat pump technology. The main issue before the committee is the proposed equipment lacks a label from a State of Oregon approved testing agency.

Note that third party field testing and approval after the equipment is installed may be proposed as an alternative to listed and labeled equipment. (See <http://www.cbs.state.or.us/external/bcd/programs/electrical/electricalabs.html> for a list of Oregon approved testing agencies.)

Additional Information Required:

1. Clarify the specific model proposed to be installed.
2. Provide a copy of all test reports currently available.
3. If State of Oregon approved listings and labels are not available, provide a comparison analysis between the equipment components and the standards under UL 1995, CSA or other recognized testing agency. Components to be analyzed should include but not necessarily be limited to: electrical components, connections and grounding; pump/compressor and piping.
4. Specify the power supply that will be used and provide information on any modifications required for US electrical source.

Instruction for submitting this information:

Once you have gathered the additional information listed above, please submit it electronically to Paige Postma at paige.postma@ci.portland.or.us.

Once the information has been submitted it will be routed to the committee to review. You will be notified when the committee will be holding another meeting to review the information. In this case the committee may review the information via e-mail or conference call, so an additional meeting may not be necessary.

You are encouraged to submit this information as quickly as possible to proceed with this review. However, all additional information must be submitted within a year from the date of this letter. If there is more than six months of inactivity past this due date the application will be considered withdrawn and no fees will be refunded.

Following the committee's recommendation, a building code appeal must be applied for and approved to be able to use this technology in a site-specific project. See <http://www.portlandonline.com/bds/index.cfm?c=34196> for information on the building code appeal process.

If you have any additional questions please contact Paige Postma at 503-823-7301 or Ben Howell at 503-823-4539.