Mid-Cycle Code Amendment
December 7, 2011

2010 Oregon Energy Efficiency Specialty Code
Section 503.2.4.5, Shut-off Damper Controls
Effective Date: January 1, 2012

BACKGROUND:

HISTORY:

Motorized shut-off damper provisions for outdoor air intake and exhaust systems have been required in the energy code since 2004. The intent is to reduce air leakage and infiltration into the building when the fan unit is off. Requiring automatic closing, positive shut-off dampers with low leakage around the blades provides for better sealing of the building. Multiple exceptions were included in the 2004 and 2007 editions of Chapter 13 of the Oregon Structural Specialty Code (OSSC), when this was the location for the Oregon-specific energy code: Type 1 exhaust hoods, combustion air intakes, smaller equipment, buildings under 3-stories in height, systems under 300 CFM, etc. were exempted.

With the move to the International Energy Efficiency Code (IECC) 2009 version as the basis for the stand-alone, 2010 Oregon Energy Efficiency Specialty Code (OEESC), the IECC model code included only two exemptions: 1) for systems under 300 CFM and 2) for buildings 3 stories and shorter.

During the 2010 adoption cycle, the exemption for buildings 3 stories and shorter was removed from the OEESC. This indirectly eliminated several motorized damper exemptions included in the 2007 Energy Code, including provisions excluding small packaged equipment. This equipment was exempted in previous codes because the economizers on this equipment would require a custom retrofit or field installed accessory to install a motorized damper on the pressure relief exhaust.

The Division found that the change inadvertently requires purchase of non-standard equipment at a significant cost premium. The potential payback due to the additional cost of equipment exceeds the life of the equipment under most circumstances. Therefore, an exception for the dampers integral to economizer exhaust relief on packaged equipment is re-inserted into the OEESC.

The language adopted in this amendment provides an exception to allow the factory installed exhaust openings integral to packaged HVAC equipment to utilize backdraft dampers and motorized dampers that have leakage rates above the requirements of Section 503.2.4.5.

This code change has been prepared as insert pages for the 2010 OEESC. Pages are formatted so that when inserted, the amendments will face the page containing the existing code language.

Text formatting; ~~strike through~~ denotes text that has been deleted,
Underline/bold denotes text that has been added.

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503.2.4.5 Shutoff damper controls. Both outdoor air supply and exhaust shall be equipped with not less than Class I motorized dampers with a maximum leakage rate of 4 cfm per square foot (6.8 L/s· C m^2) at 1.0 inch water gauge (w.g.) (1250 Pa) when tested in accordance with AMCA 500D, that will automatically shut when the systems or spaces served are not in use.

Exceptions:

1. Gravity dampers shall be permitted for outside air intake or exhaust airflows of 300 cfm (0.14 m^3/s) or less.

2. Economizer relief dampers integral to unitary and packaged equipment.