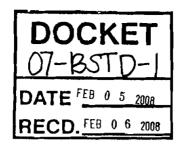


February 5, 2008

Chris Gekas California Energy Commission 1516 Ninth Street, MS 25 Sacramento, CA 95814-5512



RE: 2008 Building Energy Efficiency Standards, Residential Ventilation

Dear Mr. Gekas:

A recent public comment on the residential ventilation requirements, submitted by Newport Ventures on December 20, 2007, stated objection to the central-fan-integrated (CFI) supply ventilation system based on simulation results reported in an LBNL publication<sup>1</sup>. That publication was a technical paper condensed from an earlier LBNL publication<sup>2</sup> which includes more details about the simulation approach used. It would be useful for interested parties to know that the earlier publication shows that the simulation results are applicable to:

- 1. Houses that have all air distribution ducts in attics;
- 2. Houses that have space conditioning systems that are oversized at least 50% compared to ACCA Manuals J and S;
- 3. Houses that set up the cooling thermostat from 78°F to 83°F every day (including weekends) and set back the heating setpoint from 68°F to 65°F every night;
- 4. Houses where the heating season starts and stops on pre-determined days so that heating is not allowed outside of those dates, and where the cooling season starts and stops on pre-determined days so that cooling is not allowed outside of those dates; and
- 5. PSC motor air handlers operating at high static pressure (>0.5 in w.c.).

All of those energy modeling assumptions are weighted against the central-fan-integrated supply ventilation system in ways that:

- a. Increase the central fan operation time charged to ventilation:
- b. Increase the power draw of the central fan; and
- c. Increase the air distribution system losses.

A more recent simulation study<sup>3</sup> addressed some of those deficiencies and includes more complete results for both standard and higher-performance houses. Those results were comparable to a 2001 field monitoring study<sup>4</sup> conducted by the NAHB Research Center for the

Sherman, M. and Walker, I. 2007. "Energy Impact of Residential Ventilation Standards in California", LBNL 61282. Lawrence Berkeley National Laboratory, Berkeley, CA. http://www-epb.lbl.gov/Publications/lbnl-61282.pdf

<sup>&</sup>lt;sup>2</sup> Walker, I. and Sherman, M. 2006. "Evaluation of Existing Technologies for Meeting Residential Ventilation Requirements", LBNL 59998. Lawrence Berkeley National Laboratory, Berkeley, CA. http://epb.lbl.gov/publications/lbnl-59998.pdf

WHOLE HOUSE VENTILATION SYSTEM OPTIONS – PHASE 1 SIMULATION STUDY", ARTI Report No. 30090-01, March 2007, Air-Conditioning and Refrigeration Technology Institute, Arlington, Virginia. http://www.arti-research.org/research/completed/finalreports/30090-final.pdf

4 "Field Investigation Of Machanical Vestilation Strategies In Residential Country at its Property." Final Reports.

<sup>&</sup>lt;sup>4</sup> "Field Investigation Of Mechanical Ventilation Strategies In Residential Construction", Final Report, Part 1, pg. 114, Contract CX 826961-01-0, November 2001. U.S. Environmental Protection Agency, Washington, D.C.

U.S. EPA which stated that the operating costs for CFI supply ventilation systems were moderate and competitive. I respectfully recommend that the 45 day language for residential mechanical ventilation remain as it is.

Sincerely,

Armin Rudd Principal