

## HRAI Technical Commentary

The Heating, Refrigerating and Air Conditioning Institute of Canada (HRAI)

HRAI continues to work closely with OBOA and salutes the various municipalities across Canada who have joined the association as associate members. HRAI, through its national network of chapters, provides a means for building officials, contractors, wholesalers, manufacturers and consultants to work together.

OBOA members should note that HRAI offers a wide range of HVACR technical manuals, design manuals, and software for applications such as heat loss/gain, duct design and air handling, commercial and residential courses, brochures (CFC's/HCFC's, ventilation, and tips for choosing a contractor), as well as posters and videos.

HRAI's training program includes courses in Residential Mechanical Ventilation, Installation and Design. Together, the material which forms the basis of these courses is referred to as the "HRAI Ventilation Manual". HRAI will also conduct special courses arranged and designed just for building officials. For more information on materials and courses call HRAI at 416-602-4700 (fax 602-1197).

HRAI is pleased to provide the support for the timely and ongoing information in this column for OBOA members.

# A Look at the New 1992 HRAI Digest

*by Mike Lutman*

**As part of the 1993 interim changes to the Ontario Building Code (OBC) under section 6.2.1.1, which became effective on July 1st, 1993, the 1992 edition of the HRAI Digest replaces the 1986 edition of the HRAI Digest as referenced in the OBC.**

The 1992 edition of the HRAI Digest, an updated version of the earlier edition, has had many areas changed substantially. Major changes between the two editions include the following:

1. The front sections which cover Limitations, Cooling Principles, Humidification, Ventilation, Air Cleaning and Controls have been updated to reflect the changes in technology between the two editions of the Digest.

2. The 1992 edition of the Residential Heat Loss and Heat Gain Technical Manual replaces the 1986 edition of the Heating and Cooling Load Calculations manual. The changes found in this technical manual are:

- a) The method of calculating air leakage has been changed. It will now be proportioned to the rooms in a house changed. It will now

be proportioned to the rooms in a house based on the room conductive load, rather than the area of the room.

- b) Calculations for ventilation heat loss and gain are included, based on NBC requirements. Provision has been made to allow ventilation calculations, based on OBC requirements.

- c) The tables and charts have been split according to the units in which the calculation is done and they have been simplified.

- d) New worksheets are included which reflect the changes to the manual.

- 3) The 1992 edition of the Residential Air Systems Design Technical Manual replaces the 1986 edition of the Residential Air System Design manual. The changes found in this technical manual are:

- a) The ventilation calculation and dedicated ventilation system duct design have been removed. Ventilation has been approached as a separate subject in the HRAI Ventilation Installation and Ventilation Design Manuals which are referenced in the ventilation section of the new edition of the HRAI Digest.

- b) The accumulative allowances for Aspiration and Turbulence will now restart after each change in main duct size.

- c) The maximum design static pressure has been changed to reflect the

changes to available equipment. it is now based on manufacturer's recommendations and allowable velocities.

d) The reference to minimum return air temperatures has been changed to reflect the changes in technology. For example, the fuel fired furnace mix return air temperature minimum is now 60 F (15.5 C)

e) New worksheets are included, which reflect the changes to the manual and to show more of the required calculations.

4) The Current Manual N (Fourth Edition) replaces the edition in the 1986 Digest for Small Commercial Heat Loss and Heat Gain. It should be

noted that this is an Air Conditioning Contractors of America (ACCA) publication.

HRAI has produced a new set of worksheets which better reflect Canadian conditions. The new HRAI worksheets can be found in the section of the Digest entitled "Specimen Forms".

5) The Current Manual Q (1990 Edition) replaces the edition in the 1986 Digest for Small Commercial Duct Design. This is simply an updated version of the older manual.

The changes noted in this report should serve to give building officials an idea of the nature and scope of the changes to the HRAI Digest.

For further information, contact HRAI at (416) 602-4700 (phone) or (416) 602-1197 (fax).

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## Welcome to:

### Brant County Chapter of the OBOA

On Thursday, March 4, 1993, at an OBOA Board of Directors meeting in Oakville, Chapter status was granted to the Brant County Chapter of the Ontario Building Officials Association. The chapter consists of building officials from the City of Brantford, Town of Paris, and the Townships of Brantford, Burford, Oakland, Onondaga and South Dumfries.

The enclosed photograph

shows Chad Foreshew and Peter Finn presenting the OBOA flag to Jack Schut, chapter chairman at their inaugural meeting, held on March 24, 1993. Other

members of the executive are Tony Forgione, treasurer; Kelly Eitel, Vice-Chairman; Denys Gardiner, Secretary. Submitted by: Jack Schut, chapter Chairman

