
8. Dr. J.D. Tarasuk from the University of Western Ontario presented a draft proposal to establish a Heating, Ventilating and Air Conditioning Centre in the Department of Mechanical Engineering. Dr. Tarasuk requested feedback and support from the Chapter members (see attached proposal).

In addition to the Centre, the University has established an "Industry Internship Program", (see attached information).

9. Technical Speaker (P. Ziebart)

"Balance of Power" Ontario Hydro.

Peter presented information on the state of electrical power in the province of Ontario. The presentation focused attention on the following:

- Our need for Electricity
- Making sure we have enough
- Impact on the environment
- Providing a balanced approach
- The need for public input into decisions.

Meeting adjourned at 9:45 p.m.

D R A F T

*PROPOSED HEATING VENTILATING AND AIR CONDITIONING CENTRE
IN THE*

*Department of Mechanical Engineering
AT
The University of Western Ontario*

PROPOSAL

Experts in the field of Heating Ventilating and Air Conditioning (HVAC) usually acquire their skills in special courses outside the University context or by years of practical experience. The objective of the proposal is to establish a Centre of Education and Research in HVAC at The University of Western Ontario which will:

- 1) provide a resource centre to consultants and the industry in HVAC
- 2) Train young engineers to levels of proficiency to minimize assimilation time in the HVAC industry and
- 3) develop a strong research thrust coupled with the training of experts in HVAC related studies to the M.E.Sc. and Ph.D. levels

These objectives will be fulfilled by:

- 1) *The Creation of a Mechanical Engineering Fourth Year Option in HVAC*

The option will require the student to take the mandatory general courses. However, the electives must be selected from courses related to the area of HVAC. A fourth year project will be required in the HVAC field of study.

- 2) *Creation of a Research Laboratory With Emphasis on HVAC Related Problems*

This will require dedication of additional laboratory space, the acquiring of research equipment and more importantly additional faculty to direct research and instruction at the graduate level.

- 3) *Development of M.Eng. Module Courses to Serve the Industry*

An innovative M.Eng. Program is being initiated at Western. The purpose of the program is to make available to Engineers, high quality courses which will be taken in a four day period (Saturday to Tuesday). These courses will be taught by National and International experts.

BENEFITS

Several benefits are likely to come out of such a centre for Industry, students and the University.

BENEFITS TO INDUSTRY

- i) access to the facilities of a research centre in HVAC at Western
- ii) highly trained graduate engineers
- iii) a resource centre for consultants in advanced aspects of HVAC
- iv) involvement in Western's Year IV projects and the E.S. 240 Project
- v) involvement in Western's Industrial Internship Program
- vi) involvement in the M.Eng. Program

BENEFITS TO STUDENTS

- 1) an opportunity to specialize before graduation
- 2) opportunity to meaningfully interact by Year III with the HVAC engineering community
- 3) provide employment opportunities in HVAC

BENEFITS TO THE UNIVERSITY

- 1) attraction of funding for laboratories, faculty, and research
- 2) attraction of high calibre students in the undergraduate/graduate programs

WHY WESTERN

Mechanical Engineering at Western has changed dramatically in the past decade. The staff and faculty are new and are anxious to interact where possible with industry. Our philosophy is both the education of young engineers and the support of industry in research and development at Western. We already have, in place, some research facilities in HVAC and faculty in the Mechanical Engineering Department with considerable interest in HVAC. In addition, a Construction Centre of Excellence is soon to be started in our Civil Engineering Department.

A sampling of past and present projects are as follows:

4th Year Thesis Topics

- The Effect of Oversizing on Residential Gas Furnace Efficiency
- Feasibility Study for Conversion to Direct Digital Control
- An Energy Retrofit Study for Riverside United Church
- Chilled Water Storage Systems
- Design and Construction of a Heat Exchanger for a Domestic Clothes Dryer
- Recovery of Chimney Losses for a Residential Furnace
- Granular Insulation Injection System for Wall Cavity Insulation
- Energy Conservation Through Urban Planning and Design

- Location of Freezing Isotherms Beneath Cold Surfaces
- The Design and Analysis of an Exterior Retractable Insulated Wind Shade
- The Economic Feasibility of Solar Power for Domestic Hot Water Heating in London
- Combustion Control and Air Balancing Study, Cuddy Plant C, London, Ontario

M.E.Sc. Thesis Topics

- Interferometric Study of Coupled Convective Systems (Inflatable Structures)
- Control of Stratified Liquid Plumes (Atrium Simulation)*
- Cross Contamination and Intermittent Testing of Air to Air Heat Exchangers
- An Air Particle Heating Exchanger for the Recovery of Waste Heat
- An Attic Waste Heat Recovery System

**This problem was stimulated by a full scale building envelope problem associated with a unique building design in Hong Kong*

Ph.D. Thesis Topics

- Natural Convective Flow in Inclined Square Ducts
- Heat Transfer from Inflatable Structures
- Coupled & Non-coupled Convective Heat Transfer from Rectangular Cavities (Solar Collectors)

Facilities

Two laboratories are highly equipped for heat transfer studies. Major equipment includes:

- air to air heat exchanger rig
- 2 large Beam Interferometers
- Laser Doppler Anemometers and Ancillary Equipment

Faculty interested in HVAC instruction and research include:

Dr. R. ElAssar, Adjunct Professor

- instructor in HVAC II and
- fourth year project director

Dr. E.S. Nowak, Professor

- instructor in Heat Transfer, Energy Conversion, Fluid Machinery and Thermodynamics
- research interests include Thermodynamics and Heat Transfer, and Energy Conservation in buildings

Professor J.E.K. Foreman, Professor Emeritus

- expert in Noise Abatement

Dr. J.D. Tarasuk, Professor

- instructor in HVAC I, Thermodynamics and Heat Transfer
- research Heat Transfer, Heat Exchanger, and New Energy Efficient Refrigeration Systems

EXPECTED SUPPORT

1. The University of Western Ontario is expected to support this proposal by:
 - i) allocation of laboratory space for undergraduate and graduate facilities
 - ii) provision of fringe benefits for part-time lectures
 - iii) support staff

2. Government Research Granting Agencies are expected to support:
 - i) faculty Operating Grant research proposals
 - ii) Industrial Research Assistance program proposals and
 - iii) Strategic Grant proposals

3. Industry will be expected to:
 - i) assist in the salary support of special lectures
 - ii) contribute to laboratory equipment for instruction and research
 - iii) support research at the graduate level directly or in cooperation with governmental research funding agencies

AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERING, INC.
1791 Tullie Circle, N.E.
Atlanta, Georgia 30329

GENERAL MEETING MINUTES

CHAPTER: LONDON CANADA

MEETING DATE: MARCH 26, 1990

ATTENDANCE: MEMBERS: 33; GUESTS: 2; COMPILED BY: D.K. BOYCE

DISTRIBUTION: Original to chapter files, 1 copy to Regional Chairman, 1 copy to Manager, Membership Dept., ASHRAE, Atlanta, together with one extra copy for "Journal" information.

**SUGGESTED CHECK LIST
OF ITEMS TO BE
REPORTED**

1. Presiding Officer
2. Call to order

(Time & Place)
3. Roll Call
4. Approval of Minutes
5. Reports
6. Election
 - Members
 - Officers
7. Old Business
8. New Business
9. Speaker
10. Discussions
11. Motions
12. Resolutions
13. Other Features
14. Adjournment

1. G. James presiding officer.
2. Meeting convened at 6:40 p.m.
3. G. James introduced the Head table, followed by self introduction of members and guests.
4. Announcements:
 - (a) As part of engineering week activities three chapter members J. Bisset, J. Reid and D. Boyce will be meeting with Board of Education about promotion of engineering careers at the highschool level.
 - (b) London Chapter activities have made it into the ASHRAE insights.
 - (c) LCDA trade show activities are complete and the final amount received through our participation is \$3,068.00.
5. Research (C. Clemance).
Still have not canvassed the Chapter members but this will be done in the near future. We are now at 20% of our goal.
6. Life Member Award (R. Gonder)

Russ Gonder introduced the recipient of the Life Member Award. Mr. Cliff Morrison.

Russ then related the many ASHRAE activities that Cliff has been involved in.

In addition to the framed Life Member certificate Cliff was presented with a wooden whistle which imitates the sound of a steam whistle.

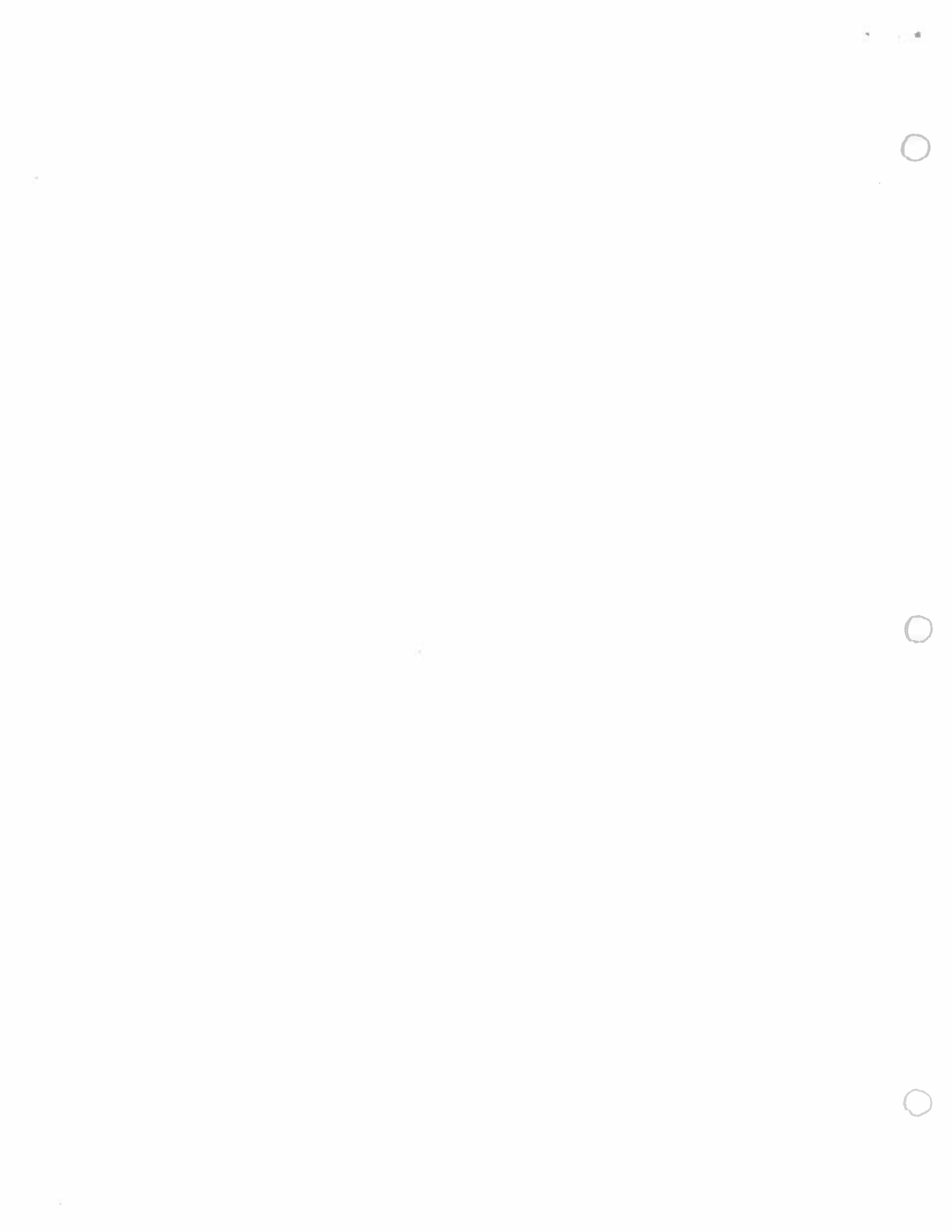
Cliff thanked the Chapter, Society and Russ for the recognition. Cliff then related the history behind the starting of the London Chapter with Russ Gonder, Jack Vanstone and John Bisset.

7. Technical Presentation - "Kitchen Exhaust Systems" (Kirk Flowers).

Kirk reviewed NFPA96 requirements relative to kitchen exhaust systems and study reports on required Hood Face velocities.

Kirk then reviewed the various types of exhaust systems -- one pass exhaust and recirculation and discussed the advantages and disadvantages of each system.

Meeting adjourned at 9:40 p.m.



AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERING, INC.
1791 Tullie Circle, N.E.
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GENERAL MEETING MINUTES

CHAPTER: LONDON CANADA

MEETING DATE: APRIL 30, 1990

ATTENDANCE: MEMBERS: 19 ; GUESTS: 1 ; COMPILED BY: D.K. BOYCE

DISTRIBUTION: Original to chapter files, 1 copy to Regional Chairman, 1 copy to Manager, Membership Dept., ASHRAE, Atlanta, together with one extra copy for "Journal" information.

**SUGGESTED CHECK LIST
OF ITEMS TO BE
REPORTED**

- | | |
|--|--|
| 1. Presiding Officer | 1. G. James, presiding officer. |
| 2. Call to order
(Time & Place) | 2. 'R' in ASHRAE meeting convened at 6:35 p.m. |
| 3. Roll Call | 3. G. James introduced the Head table, followed by self
introductions. |
| 4. Approval of
Minutes | 4. <u>Announcements (G. James)</u>

(a) May meeting to be held at U.W.O. with a tour of the Wind Tunnel
and dinner at the University Club.

(b) June golf meeting is to be held at the Thames Golf Course in
London on June 25, 1990. |
| 5. Reports | 5. <u>Nominating Committee Report (G. James)</u>

The slate of nominees is as follows:

Treasurer: Peter Ziebart
Secretary: Owen Glendon
Vice-President: Darryl Boyce
President: Tom Drennan
Past President: Greg James |
| 6. Election
- Members
- Officers | 6. <u>Vice Chairman Report (J. Bisset)</u>

John noted that the May tour would be an excellent time to bring
out potential members.

The CRC will be held at the Chateau Louie in Montreal. Accommoda-
tions are \$90.00/night and registration will be \$185.00.

This should be an excellent event and all committee chairmen should
try to attend. |
| 7. Old Business | 7. <u>Technical Presentation</u>

"Properties of New Refrigerants", John Smales.

Mr. Smales presented a brief talk on where the industry is going
relative to new refrigerants to replace CFC products which are
creating environmental problems.

- Greenhouse
- Ozone depletion |
| 8. New Business | |
| 9. Speaker | |
| 10. Discussions | |
| 11. Motions | |
| 12. Resolutions | |
| 13. Other Features | |
| 14. Adjournment | |

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The CFC problems have resulted in the development and concern for a product trail, tracking from manufacturer to disposal.

The likely outcome of the next Montreal Protocol meeting is to accelerate the phasing out of CFC use and a reduction of the final levels.

The biggest gains can be made with recovery and recycling while we develop new safe compounds.

A change from R-11 to R-123 will result in a 10% - 15% reduction in capacity in Centrifuge Chillers.

Meeting adjourned at 9:00 p.m.

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AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERING, INC.
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GENERAL MEETING MINUTES

CHAPTER: LONDON CANADA

MEETING DATE: MAY 28, 1990

ATTENDANCE: MEMBERS: 22; GUESTS: 3; COMPILED BY: D.K. BOYCE

DISTRIBUTION: Original to chapter files, 1 copy to Regional Chairman, 1 copy to Manager, Membership Dept., ASHRAE, Atlanta, together with one extra copy for "Journal" information.

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- Members
- Officers
7. Old Business
8. New Business
9. Speaker
10. Discussions
11. Motions
12. Resolutions
13. Other Features
14. Adjournment

1. G. James, presiding officer.
2. Meeting convened at 6:30 p.m.
3. Self introduction by members and guests.
4. Treasurer's Report (O. Glendon)
Current Account \$3,763.75
Savings Account 6,508.78
CRC 3,671.39
5. Announcements:
June meeting to be held at the Thames Valley Golf Club June 25/90.
6. Election of Chapter Officers
G. James announced that the following 1990/91 officers were elected by acclamation.
President: Tom Drennan
Vice-President: Darryl Boyce
Secretary: Owen Glendon
Treasurer: Peter Ziebart
6. Technical Presentation
The technical presentation and tour was conducted by the staff of the University of Western Ontario Wind Tunnel.
Dr. Isyumov presented a tape on Boundary Layer Wind Tunnel technology and described the concepts relative to exhaust stack dispersion analysis.
The attendees were then given a tour of the facilities and were given background on the variety of projects that have been studied in the Wind Tunnel.
Of specific interest was the study being conducted for the University of Western Ontario relative to fumehood exhaust dispersion and stack design.

The meeting adjourned at 9:30 p.m.

