

Capital Communiqué

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS

FEBRUARY 1987

FEB 11 1987

PRESIDENT'S COMMENTS

My congratulations to the Education Committee for their promotional efforts and success in attracting twenty-one (21) students to attend our Student Night meeting in January. These young men and women are potential contributors to our industry and future members of ASHRAE.

At our January meeting I was asked "How well are we doing as a Chapter and how do we compare to others?" A good question. Afterwards I felt it worthwhile to share my answer with all other interested members.

All Society Chapters have assigned objectives for each Society year. Achievement of these objectives is recognized by Society in the award of P.A.O.E. (Presidential Award of Excellence) points for membership growth, delinquent Society members (none is good), meeting attendance, research contributions and seminars, to name the major areas. As of December 31/86, Ottawa Valley Chapter was awarded 685 points, the highest in our Region of ten (10) Chapters, including Toronto and Montreal. My thanks to the many who have contributed freely of their time and talents to "make it happen".

Society headquarters in Atlanta have asked me to remind all members and other interested parties of the Smoke Control Design Seminar scheduled here in Ottawa April 30 - May 1, 1987. Send in your registration form as soon as possible. Remember our own refrigeration seminar February 24/87 -- well worth your support.

John Dugan

UPCOMING SPECIAL EVENTS

Feb. 21 Sat. Family Ski Day and Dinner at Calabogie Peaks. Bus available. Contact Jim Schick, 226-3110 or Frank Jeffries 225-8040.

Mar. 13 Fri. Bad Luck Bonspiel. Black cats and ladders are supplied. BYOT (talisman). Same contacts as above.

Apr. 10 Fri. Ladies Night Cabaret and Dinner at the Penguin Cafe. Contact Frank Tipper, 225-5472.

Please make arrangements early due to cut-off dates.

SPECIFICATIONS CONTRACT DOCUMENTS

Construction Specifications Canada, Ottawa Chapter, has postponed their advanced workshop to early October, 1987.

MEETING JOHNSON CONTROLS LTD.
OTTAWA, ONTARIO

Date: February 17, 1987
 Time: 3:00 - Tour
 5:30 - Social
 6:30 - 8:00 - Dinner
 8:00 p.m. - Program
 Place: Phileas Fogg
 Metropolitan House, 99 Bank Street
 MacDonald Room
 Menu: (Buffet Style)
 Braised Beef and Mushrooms with Fettucine
 Veal Parmigian
 Cold Sliced Ham
 Complete Salad Selection
 French Crusty - Pumpernickel Rolls
 Assorted Pastry
 Tea - Coffee

PROGRAM

Speaker: Panel Discussion
 Topic: SPECIFICATIONS: Information/Interpretation
 OR Mis-information/Mis-interpretation

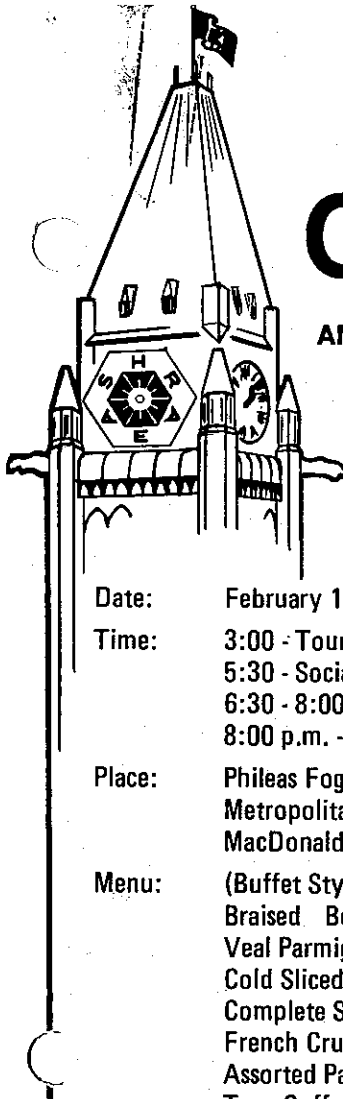
The February Meeting will host a panel which will expound on Specifications -- a subject which is much discussed and which, on many an occasion has had an impact on your work and blood pressure.

Representing	Designers	John Davies
	Specification Writers	Simon Jol
	Suppliers	Harry Atkinson
	Contractors	Les Barber
		John McAninch
	Moderator	Nick Zrymiak

The discussions will be lively, the presentations sincere, in teresting and educational.

TOUR

This month's tour will be the David Florida Laboratory's Environmental Test for Space Vacuum Chamber and the Central Heating Plant for the entire facility. The location is 3701 Carling Avenue. Please note the starting time of 3:00 p.m.



BUILDING COMMISSIONING CONFERENCE

Your Energy Management Committee is organizing a one-day Conference for April 8, 1987. Pre-registration price is \$25.00. Use the enclosed form before March 25, 1987. For further info contact Chris Frauley at 236-0438.

PAST, PRESENT, FUTURE

Don't forget the Chapter Refrigeration Seminar 'Past, Present, Future'.

Date: Tuesday, February 24
Time: 8:00 a.m.
Place: R.A. Centre

Registrations will be accepted at the February 17 Chapter meeting - \$50.00.

STUDENT NIGHT REPORT

We were very pleased at the turnout of 22 students at the Annual Student Night, promoted by your Education Committee. Some may ask, what does Student Night mean? It means students are invited from neighbouring Colleges and Universities to attend the regular Chapter meeting, sponsored by the Chapter, who is supported by its members. It introduces the students to the Chapter and to ASHRAE. In turn, it gives the Chapter an opportunity to extend a warm welcome and to show the students what we as a society can offer them.

Your Education Committee trusts that for future Student Nights, this underlining purpose is now clear.

Presently, openings still remain available for sponsorship for the January's visit by the students. A student sponsorship is \$12.00 and contributions are very much appreciated. Please contact Ross McIntyre for further information at 727-5111.

LETTER TO THE EDITOR

My comments are based on the numerous favourable remarks, made by Chapter members and guests, following the January ASHRAE meeting at the Phileas Fogg Restaurant.

The announcement by our President, asking that we all refrain from smoking while seated, has been well received, and on behalf of many of our members, I wish to thank President Dugan for his initiative, and in particular to recognize and thank the members who cheerfully put aside the weed for the evening.

With such an excellent Chapter spirit, that is demonstrated in this fashion, we can look forward to enjoying the fine restaurant location, and the clean environment.

Gone are the days when ASHRAE meetings are described as being those held in crowded smoke-filled rooms.

M. Acton

CHAPTER PARTICIPATION AND MEMBERSHIP

ANNUAL DUES

Full "CHAPTER MEMBERSHIP" (meals at Chapter Meetings are COMPLIMENTARY)	\$90.00
BASIC "CHAPTER MEMBERSHIP" (meals at Chapter Meetings are \$15.00 each)	\$35.00
BASIC "CHAPTER MEMBERSHIP" (RETIREES AND STUDENTS ONLY) (meals at Chapter Meetings are \$12.00 each, and STUDENTS will also receive the monthly Chapter NEWSLETTER)	\$10.00

For further information on Chapter Membership contact: Bill McKinnon, 731-8720.

NOMINATIONS

The Chapter Nominating Committee, composed of Mike Acton, Dalton McIntyre, Keith Murfin, Ray Young and Gabriel Laszlo, will present their report at the February Chapter meeting. The election of the Chapter Executive and the Board of Governors is scheduled for April. The new Chapter officers will be installed at the May meeting.

RECAP OF JANUARY MEETING PROGRAM

Our speaker for the evening was Sven Oskarsson. His topic was applications of ground source heat pumps. Key points of his presentation included:

- a computer simulation to pick the optimum depth for the piping.
- efficiency and thermal conductivity of the soil increase as the soil's density and moisture content increase.
- residential applications typically result in a 5 to 6 year pay-back.
- plastic pipes perform better than copper or aluminum with respect to both delta T and corrosion characteristics.

CAPITAL IDEAS

The box labelled "CAPITAL IDEAS" that you saw at our last meeting out by the badge board is a suggestion box. At the February meeting we will pass it from table to table during the evening to encourage its use. Your Board of Governors will respond to all suggestions received and report back to the membership at the next Chapter meeting.

LOCAL PROFESSIONAL DEVELOPMENT SEMINAR

Smoke Control Design
Ottawa

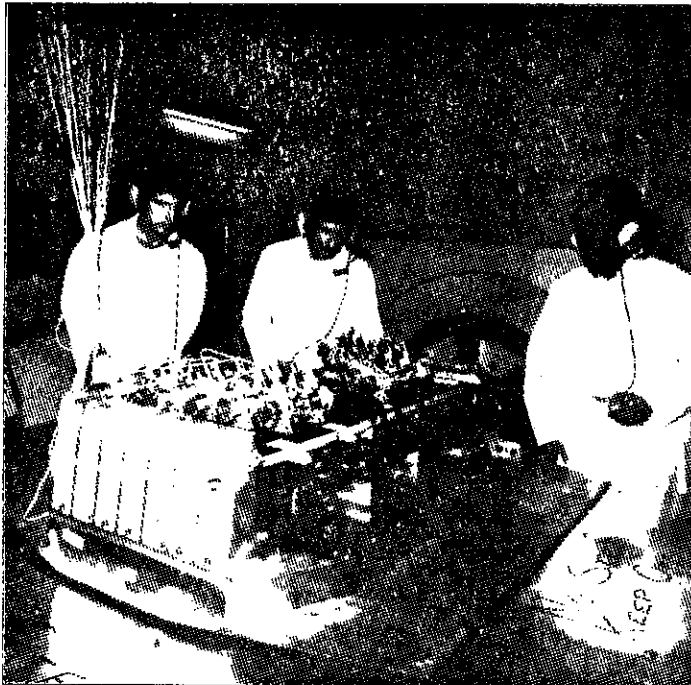
April 30 - May 1, 1987

STATEMENTS MADE IN THIS PUBLICATION ARE NOT EXPRESSIONS OF THE SOCIETY OR OF THE CHAPTER AND MAY NOT BE REPRODUCED WITHOUT SPECIAL PERMISSION OF THE CHAPTER.

Editor: Jim Mahaney 560-4799
P.O. Box 2123 Station "C", Ottawa, Ontario K1Y 4J4

DAVID FLORIDA LABORATORY

CANADA'S NATIONAL AEROSPACE ENVIRONMENTAL TEST FACILITY IS AVAILABLE TO GOVERNMENT AGENCIES AND CANADIAN INDUSTRY ON A COST-RECOVERABLE BASIS.



COMMUNICATIONS SATELLITE MULTIPLEXER DESIGNED AND BUILT BY COM DEV LTD. OF CAMBRIDGE, ONTARIO. TESTED ON DFL UD4000 SHAKER.

David Florida Laboratory Communications Research Centre

3701 Carling Avenue
P.O. Box 11490, Station H
Ottawa, Ontario, K2H 8S2

Contact:

Mr. Jean-Guy Dumoulin
radio frequency
613-998-2491

Mr. Duncan Adams
thermal vacuum, mass properties, vibration
and general inquiries
613-998-2026

The following services are available:

- radio frequency test facilities, anechoic chambers [6.1m x 6.1m x 6.7m and 12m x 12m x 14m with 400m range]
- roof top range for large antennas [16km or 400m range]
- passive intermodulation measurements
- EMI/EMC testing [shielded room, 3.6m x 4.3m x 3.6m], testing to MIL-Std.-461/462 and RTCA-160
- vibration [random and sine] test facilities [UD shaker, sine 178 kN (40 K lb. f), random 165 kN (37 K lb. f)], [MB shaker, sine 53 kN (12 K lb. f), random 44 kN (10 K lb. f)], [LING shaker, sine 27 kN (6 K lb. f), random 23 kN (4 K lb. f)] testing to aerospace specifications, MIL-Std.-810, MIL-Std.-167-1 (SHIPS) etc.
- shock testing
- modal analysis [Structural Kinematics (Fourier 900 Dynamic Analysis System, Multi-User System), LMS software FMON & SMAP, 3 force hammers from PCB (various sizes), 2 VTS 220 N (50 lb. f) portable exciters, 40 Endevco IE accelerometers with conditioners, 9 Dytron force transducers 44-440 N (10-100 lb. f) full scale and step relaxation load/release mechanism]
- mass properties measurements, static and dynamic balancing ie. CoG, Mol and Pol (25-2270 kg payload, DC to 200 RPM)
- thermal vacuum test facilities [7m x 10m (U.S. Space Transportation System STS or Shuttle payload size), 3m x 9m, 2.5m x 2.5m and 1m x 1m chambers. ATM to 10^{-8} Torr, -195°C (LN_2) to $+150^{\circ}\text{C}$ depending on chamber selected]
- thermal vacuum data processing facility includes: up to 1600 inputs (calibration, calculation, temperature, voltage, current, RTD, radiometer, telemetry etc.) real time hardcopy, digital and graphic display and non real time data processing support.
- infrared testing [IR thermal cycling (-165°C to $+150^{\circ}\text{C}$), IR thermal balance testing (absorbed flux technique), IR reflectivity measurements]
- vacuum outgassing studies to ASTM E595 and NASA standards
- residual gas analysis
- helium and argon leak testing
- three integration (high bay) clean rooms class 100,000
- additional services may be provided on request. eg. offices, machine shop, alignment, photography etc.



LABORATOIRE DAVID FLORIDA

Installation nationale d'essai environnemental aérospatial utilisable suivant une formule de récupération des coûts par les organismes gouvernementaux et les entreprises canadiennes.

Services offerts :

- installations d'essai en radiofréquences, chambres anéchoïdes (6,1 x 6,1 x 6,7m et 12 x 12 x 14m, pas d'antenne de 400m).
- installation sur toit pour mesure d'antenne (400m ou 16km).
- mesures d'intermodulation passive.
- salle blindée de 3,6 x 4,3 x 3,6m pour les essais de compatibilité électromagnétique et de brouillage R.F. selon les normes militaires 461/462 et RTCA-160.
- essai de vibration aléatoire et sinusoïdale selon les spécifications aérospatiales et les normes militaires 810, 167-1. (Table de vibration UD, 178 kN ou 40 klb f. sinusoïdale et 165 kN ou 37 klb f. aléatoire, table de vibration MB 53 kN ou 12 kN ou 12 klb f. sinusoïdale et 44 kN ou 10 klb f. aléatoire, table de vibration LING, 27 kN ou 6 klb f. sinusoïdale et 23 kN ou 4 klb f. aléatoire).
- analyse modale (Structural Kinematics : système d'analyse dynamique Fourier 900 et système multi-utilisateur, logiciels FMON et SMAP de LMS, trois marteaux d'essai de PCB (diverses tailles), deux tables de vibration portatives VTS de 220 N (50 lb f.), quarante accéléromètres à régulateur Endevco, neuf sondes Dytron de 44 à 440 N (10 à 100 lb f.) et mécanisme de charge et de décharge en condition d'utilisation ou de relaxation).
- mesure des propriétés de masse, équilibrage statique et dynamique - centre de gravité, moment d'inertie, produit d'inertie (charges utiles de 25 à 2 270 kg, vitesse angulaire de zéro jusqu'à 200 t/m).
- installations d'essai thermique sous vide comprenant quatre chambres de dimension 7m x 10m, 3m x 9m, 2,5m², 1m², couvrant une gamme de pression et de température allant d'une atmosphère à 10⁻⁸ torr et de -195°C à 150°C (N₂ liquide).
- installations de traitement de données d'essai thermique sous vide : capacité de 1 600 entrées (étalonnage, calcul, température, voltage, courant, thermométrie à résistance, radiométrie, télémétrie), copie sur papier en temps réel, affichage numérique et graphique et traitement différé de données.
- essai à l'infrarouge (cyclage thermique à l'infrarouge (-165°C à 150°C), essai d'équilibre thermique à l'infrarouge (technique du flux absorbé), mesure de réflexion à l'infrarouge).
- études de dégazage sous vide selon les normes E595 de l'ASTM et de la NASA.
- analyse de gaz résiduels.
- essai d'étanchéité à l'hélium et à l'argon.
- trois grands halls d'intégration dépoussiérés (classe 100 000).
- autres services sur demande, par ex. bureaux, ateliers, alignement, photographie, etc.

Renseignements :

Laboratoire David Florida
Centre de recherches sur les communications
3701, avenue Carling
C.P. 11490, succursale H
Ottawa K2H 8S2 (Ontario)

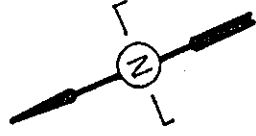
M. Jean-Guy Dumoulin
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(613) 998-2491

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Vide thermique, propriétés de masse, vibrations et renseignements généraux
(613) 998-2026

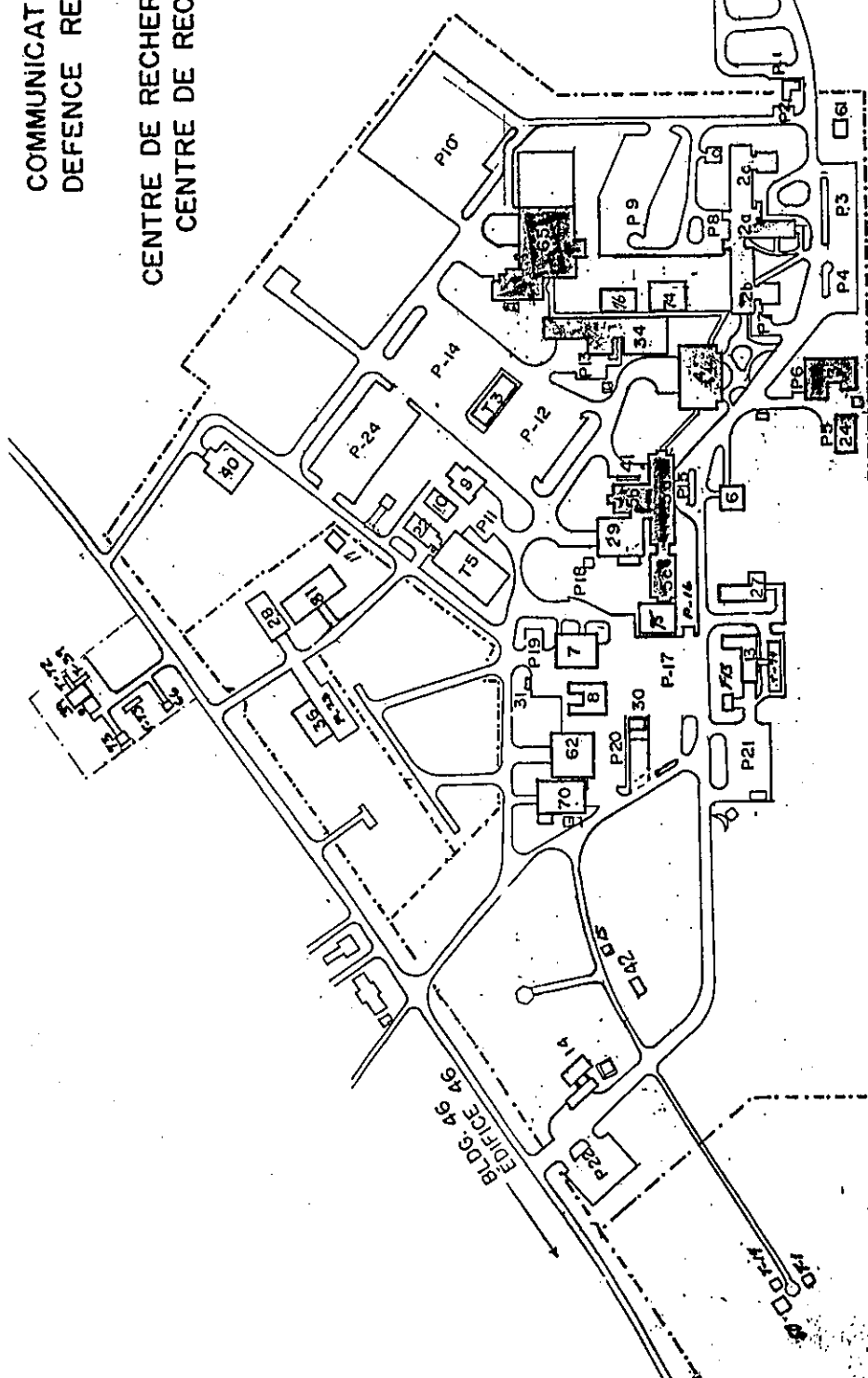


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OTTAWA



BUILDING INDEX

- | | | | |
|-----------------------------|--------------------------------|--------------------------------|------------------------------------|
| 1. GUARD HOUSE | 10. HUMAN ENG. LAB | 31. EQUIPMENT STORAGE | 65. DAVID FLORIDA BLDG. |
| 2. CRC LAB | 13. RADAR ELECTRONICS | 34. TECH/ SERVICES BLDG. | 70. HEAVY EQUIP. STORAGE BLDG. |
| 3. HEATING PLANT | 14. SATELLITE OPERATIONS BLDG. | 36. ELECTRO MAGNETICS BLDG. | 73. FUEL STORAGE BLDG. |
| 4. ADMINISTRATION | 22. MICROWAVE LAB | 40. RESERVOIR | 74. ADMINISTRATION BLDG. |
| 5. MICRO LAB | 24. ACCELERATOR BLDG. | 41. ELECTRICAL DIST. SYN. | 75. ELECTRONIC RESEARCH BLDG. |
| 6. RDL BUILDING | 27. DSIS STORAGE BLDG | 42. ELECTRICAL DIST. SYN. | 76. COMPUTER BLDG. |
| 7. PLANT ENGINEERING | 28. EARTH SCIENCE WAREHOUSE | 50. RADIATION EXPERIMENT BLDG. | |
| 8. CRC STORES | 29. DRDO RECEIVING | 61. OUTDOOR SUB-STATION | |
| 9. PILOT PLANT | 30. LUNGER SHED | 62. GARAGE & STORAGE BLDG. | |

TITLE: DESIGNATED PARKING P-1 - P-24
DWG. N°: SK - 484
ISSUE DATE: JAN. 21, 1985

February 2, 1987

BUILDING COMMISSIONING CONFERENCE

This year's Energy Management Committee is organizing a one-day conference on Building Commissioning. Approximately six (6) papers dealing with various aspects of Building Commissioning will be presented.

The time and place will be as follows:

Wednesday, April 8, 1987
from 8:30 a.m. to 4:30 p.m.
in the Salon Room of the National Arts Centre.

A fee of \$25.00 will be charged for those who pre-register. Price at the door will be \$35.00. Tickets will be available at the next two ASHRAE meetings, or use the mail-in form. We request that you reserve early since space is limited to 100 people. Last year's conference ended up as a full house. Cut-off date for pre-registration is March 25, 1987.

We are planning on your full support to make the conference a success. Please contact Chris Frauley for further information (tel. 236-0438).

BUILDING COMMISSIONING CONFERENCE

ADVANCE PREPAID REGISTRATON MUST BE RECEIVED BY MARCH 25, 1987

(PLEASE PRINT)

NAME _____

TITLE: _____

FIRM: _____

ADDRESS: _____

CITY: _____ PROV.: _____ POST CODE: _____

PHONE: () _____ () _____
(office) (home)

PRE-REGISTRATION FEE \$25.00 CHEQUE

MONEY ORDER

Make registration fee payable to: ASHRAE Ottawa Valley Chapter

MAIL TO: ASHRAE
P.O. Box 3123, Station C
Ottawa, Ontario K1Y 4J4

Attention: Energy Management Committee
