Capital Communiqué

ASHRAE - AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS

http:/www.ashrae.ottawa.on.ca **OTTAWA VALLEY CHAPTER** e-mail:contact@ashrae.ottawa.on.ca

March 2006

EVENING PROGRAM

DATE: Tuesday **March 21st**, **2006**. Social: 18:00 Dinner: 18:30 Program: 20:00
at La Contessa Banquet Hall, 156 Cleopatra Drive, Nepean, K2G 5X2

THEME: **Research**

PROGRAM: **Building Automation for High-Performance Laboratories**
(following ½ day Lab Design Seminar)

SPEAKER: **Jim Coogan, P.E.**
Principal Engineer , Siemens Building Technologies

OVERVIEW: Building automation offers outstanding opportunities to enhance the performance of a laboratory facility. The range of uses of scientific spaces invites a variety of HVAC and control designs. This talk examines energy consumption in laboratories and options for conservation. It also covers "information applications" where the BAS becomes a tool for managing safety and quality control in addition to operating mechanical equipment. Finally we look ahead to future automation functions that new sensor technologies may enable.

SPEAKER BIO:

Jim Coogan, P.E., is a Principal Engineer in product development and applications for Siemens Building Technologies. He has 25 years experience designing microprocessor-based controls for mechanical systems, with 15 of those spent in the HVAC industry. Jim has served as chairman of **ASHRAE Technical Committee 1.4, Controls**, and has been an active member of **TC 9.8 Laboratory Systems**. He has participated in development HVAC control products ranging from simple room controllers to PC-based operator interfaces and has extensive experience with laboratory ventilation controls.

Menu
Caesar Salad; Rolls & Butter
Chicken Parmigiana w/ Penne in Tomato Sauce
Assorted Pastries, Coffee, Tea

President & CRC Delegate

President's Message

by Jay Doshi

As the snow melts, the month of March brings thoughts of spring, ASHRAE Curling Bonspiel, TEGA Technology awards, ASHRAE Lab Seminar and ASHRAE Research. The theme for March is Research. The ASHRAE Research Campaign annually raises funds to support ASHRAE's research program. It is conducted by the Society's membership through local chapter volunteers and receives over 7,000 contributions each year from the membership and companies associated with the HVAC&R industry.

ASHRAE Research Canada is a registered non-profit organization in Canada. Contributions from citizens and Canadian businesses are deductible as allowed by law. This annual support totals more than $1.7 million annually and is matched dollar-for-dollar by ASHRAE from the proceeds of the annual winter AHR Exposition. Since ASHRAE pays all the fund raising expenses, 100% of every donor's invested dollar goes into the research program.

ASHRAE Research Vision is that ASHRAE will conduct timely research to remain the foremost, authoritative, and responsive international source of technical and educational information, standards and guides on the interaction between people and the indoor and outdoor environment through the operation of HVAC&R systems in buildings and other applications.

The ASHRAE Research Strategic Plan centers on the concept of Sustainability. The world has finite resources, and so it is essential to effectively utilize those resources to accomplish the mission of ASHRAE.

The Research Plan that resulted from this consideration is based on five broad, far reaching Research Opportunity Themes:
Energy & Resources
Indoor Environmental Quality
Tools and Applications
Equipment, Components, and Materials
Education and Outreach

Let's take the time to contribute to achieve this vision and improve all our lives as a result.

We have a fully booked ASHRAE Curling Bonspiel event and I would like to thank all of you for your support. Special thanks go to Chris Healey for his continued support and time in organizing this event. I would like to also remind our members of our upcoming special event, The Lab Seminar where you will learn not just about technology but also the view points from various stakeholders such as the engineer and the building owner on the application of this technology. Please take the time to participate in this important event and register immediately. Hope to see you all at the March Lab Seminar and program meeting. Thank you for your participation and support.

In your service,
Jay Doshi
President 2005/2006
Ottawa Valley Chapter ASHRAE
Tel: (613) 733-9781 ext 241
Fax: (613) 737-4985
e-mail: jay.doshi@siemens.com

Past President

ASHRAE Research Canada

Ottawa Valley Chapter Campaign

by Cathy Godin
2005-2006 OVC Research Promotion Chair

This month's chapter meeting theme is **Research Promotion** and our campaign is slowly creeping forward with new contributions arriving weekly. These last two months are the final push to reach all past contributors and also attempt to contact new untapped resources for this fundraising effort. Our Regional Vice-Chair, Jeff Clarke, paid us an unexpected visit last month and we may be fortunate enough to have Jeff back at this month's meeting, but regardless of his appearance, we will continue to award the coins and commemorations to last year's contributors. This is a small way to recognize these corporate and individual contributors, in addition to the kudos they receive in this newsletter and on the website. If you are such a contributor and did not receive your award at the October meeting, thank you and I look forward to seeing many of you at this month's meeting to receive your credit.

Remember, Ottawa Valley is unique in that we historically successfully bid on research projects and a far greater sum is invested in our territory than we raise during our campaign.

At this time, the up-to-date 2005-2006 campaign contributors are:

Full Circle
Catherine Godin; Jayendra Doshi; Glenn MacLean; Robert Lefebvre;Francois Belair

Gold Circle & Special Recognition - $1000 and above
Enbridge Gas Distribution
Goodkey Weedmark & Associates

Major Investors - $250 - $999
Breck-Mar Sales & Service Ltd.
C & S Heating Ltd.
McKee Engineering Ltd.
S.K. Sheet Metal Ltd.
Total HVAC Inc.

Investors $0 - $249
AccuFab Metal Products
Frank Bann
Cynthia Gillis
Gary Hartmann
Jay Jayaraman
Rod Lancefield
Jason MacMurdo
Rocque Mechanical
Rodders CAS
Michael Swayne
Hyman Yanofsky

Laboratory Design Considerations, Applications and Commissioning Strategies

Tuesday March 21, 2006
La Contessa Banquet Hall, 156 Cleopatra Drive, Nepean

The objective of the seminar is to review the latest laboratory control technology and the challenges of its implementation on real project examples. A moderated panel discussion with participation from attendees will ensure the success of this event. Registration information may be found at www.ashrae.ottawa.on.ca or by contacting Cathy Godin at cathygodin@bellnet.ca.

12:00	Luncheon	
13:00	Introduction and opening remarks	Atma Anantram, P. Eng. Siemens Building Technologies

13:15	Identification of laboratory users' needs:
	• Identify lab needs – research or teaching
	  ○ Chemistry
	  ○ Biology
	  ○ Medical
	  ○ Animal Care
	  ○ Bio Safety
	• different design criteria
	• Different material considerations
	• Fume hood & sash designs
	• Storage cabinets
	• Reliability & redundancy
	• Heat recovery
	• Supply air systems
	• Exhaust air systems & duct configuration
		Herb Dean, P.Eng.
		University of Ottawa

13:45	Design Issues: • Outdoor Air Intake Considerations • Exhaust Air Outlet Considerations • Site Modeling Considerations • Supply Air Handler Considerations • Supply Air System Considerations	Chris Frauley, P. Eng. McKee Engineering

	• Exhaust Air System Considerations • Exhaust Fan Considerations • Heat Recovery Considerations • Fume Hood Selection Considerations • Chemical Storage Cabinet Considerations • Lab Pressurization Considerations • Lab Energy Usage Considerations • Cooling System Considerations • Heating System Considerations • Emergency Power Considerations	
14:15	Implementing laboratory control solution • Types of fume hood control • Room pressurization concepts • Room pressurization methods • Temperature control – heating and cooling • Lab room control systems • Lab room control components • Control of exhaust system	Jim Coogan, P. Eng. Siemens Building Technologies
15:15	Break, table top displays	Table Top Vendors
15:45	Commissioning the laboratory systems • Review the design and control strategies • Establish control of the exhaust system • Establish control of the supply air system • Establish control of individual fume hoods • Establish interaction with the general exhaust system • Establish control over cooling and heating elements • Verify emergency mode of operation • Verify unoccupied hours mode of operation • Establish corridor pressurization control • Fine tune the fume hood face velocity control • Fine tune the total exhaust volume • Fine tune the supply volume control to achieve the required pressurization control	Frank Vaculik, P.Eng. F. Vaculik Engineering Ltd.
16:00	Maintaining & Operating the Facility • Familiarize users with the facility & normal modes of operation • Emergency mode • Assist in preparation of SOP's • Familiarize operations group re facility – all modes • Familiarize operations group with equipment • Establish maintenance procedures & frequencies • Plan for testing & re-certification when applicable	Herb Dean, P.Eng. University of Ottawa
16:30	Panel Discussion, Q & A	Robin Craig, P.Eng. National Research Council
17:00	Adjournment, table top display	
17:30	Chapter meeting	

Governor

Table-Top Display

by Gary Hartmann
Table-Top Committee Chair
and all-round Mover and Shaker

Longhill Energy present:

The Vortex II , Bi-Stable Vortex Fume Safety Cabinet, provides maximum containment while cutting laboratory energy consumption up to 60%! Expansive field studies and mathematical modeling have proven that the VORTEX ll provides maximum containment with minimum energy consumption. The ideal energy distribution in the VORTEX ll , Bi-Stable Vortex Fume Safety Cabinet contributes to its safe, efficient and quiet operation. The VORTEX ll , makes VAV fume hood controls obsolete with its unique Variable Face Velocity (VFV) design. Conventional mono-stable vortex fume hoods, even with elaborate controls, cannot protect better or save as much energy as the VORTEX ll , Bi-Stable Vortex Fume Safety Cabinet.

HTS Engineering will be presenting Laboratory controls from TSI Inc.:

TSI Incorporated is a world leader in the design and manufacturing of precision instruments used to measure flow, particulate, and other key parameters in environments the world over. TSI serves the needs of industry, governments, research institutions, and universities, with applications ranging from pure research to primary manufacturing.

TSI offers the widest range of products used in the Lab control market. The spectrum of products range from simple direct pressure monitoring all the way to the most complex Flow tracking/Direct Pressure/ and temperature control combination available.

Also available from TSI is a wide range of Fume Hood face velocity monitors and controllers all based on direct face velocity measurement.

For a complete range of products and services offered by TSI please visit:
www.tsi.com
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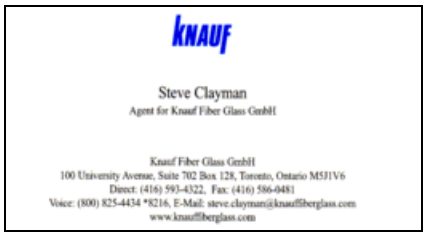
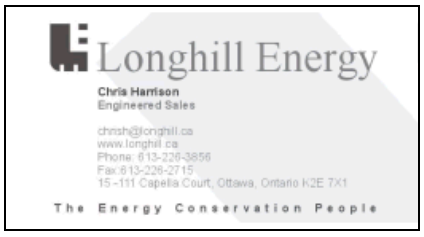


(your card here!)



Secretary

What You Missed

February 21st, 2006 Chapter Meeting
by Robert Lefebvre

Frank Bann, RVC Membership, and **Jeff Clark**, RVC Research Promotion, were both in attendance for the February meeting and each gave a talk on their respective regional committees. **Karen Peck** presented the program for the Lab Design Seminar that is being held on March 21st. **Niraj Chandra**, after contemplating the meaning of life, asked members to participate in Handbook and Standards review; and **Bob Kilpatrick** appealed to the membership to participate in the TEGA awards. **Phil Lemieux** announced the new members.

The evening program was presented by **Harald Prell**, General Manager of Viessmann North America, located in Waterloo, Ontario. Harald discussed the state of the global environment with a focus on green house gases and carbon dioxide emissions. He reviewed the Kyoto accord and the goals for each of the countries and specifically on how Canada was performing and the lack thereof. The presentation was wrapped up with a discussion of new energy efficient technologies that are currently available and those that are in research and development.

Swell Guy

Business Card Ads

by Rod Lancefield

You can support your chapter and promote your business by placing your business card in the Capital Communiqué. It will appear in the electronic and printed version as well as on the Chapter website.

Cost is $225.00 for the year; contact Rod Lancefield, rodl@htseng.com , 728-7400

Committee Chair

2006 ASHRAE Curling Bonspiel

March 17, 2006

by Chris Healey
2005-2006 Special Events Committee Co-Chair

The 2006 ASHRAE Curling Bonspiel will be held on March 17, 2006 (St. Patrick's Day) at the Nepean Sportsplex.

Curling will be from 1:00 pm to 6:30 pm with dinner to follow at 7:00 pm upstairs in the Richmond Room. Spectators Bar & Grille will be open at 11:30 am for lunch, and refreshments for the balance of the day.

This event is now fully booked and it promises to be a blast!

Green will be the color of choice! There will be a prize for the best dressed curler!

See you there
Chris Healey

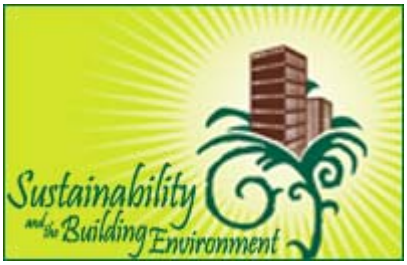
Past President

2006 ASPE Curling Bonspiel

by Cathy Godin
2005-2006 OVC Research Promotion Chair

Your ASHRAE Chapter was recently represented at the ASPE Curling Bonspiel and finished with a 3-1 record, resulting in a four-way tie for first place. The squad consisted of Mike Derouin (Governor), Cathy Godin (Past President), Gary Hartmann (Governor) and Glenn MacLean (President Elect).

The event was well organized and an enjoyable day for all. Furthermore, this event inspired our Olympic teams to strive for excellence and for that, we thank ASPE for their mentorship. The skips pictured below, **Gushue and Shannen**, proudly display their medals. Gushue and Shannen were not part of the ASHRAE team.



SUSTAINABILITY AND THE BUILDING ENVIRONMENT SATELLITE BROADCAST/WEBCAST

Wednesday, April 19, 2006
1:00 p.m. – 4:00 p.m. Eastern Daylight Time

Information regarding building sustainability principles, practices, and emerging concepts will be presented in this free broadcast/webcast sponsored by the ASHRAE Chapter Technology Transfer Committee (CTTC).

How to Participate

- You may host a Satellite Broadcast site for your colleagues
- You may register to view the Broadcast at a site
- Or, you may register to view the Webcast on your PC

About the Presenters

Presenters will explore how we can better maximize the effective use of resources while minimizing the impact on the environment. Learn more about the presenters at http://www.ashrae.org/greenbuildingsbroadcast

PDH Credits

Earn two (2) Professional Development Hours (PDHs)s or two (2) AIA Learning Units by completing the Participant Reaction Form following the broadcast/webcast.

Join ASHRAE Now and Save $50!

Participants who are not currently ASHRAE members are cordially invited to join ASHRAE at a special introductory rate ($50 discount) for the first year of membership. A special membership application will be available by request at membership@ashrae.org after March 1, 2006.

To Register or For More Information (There is no registration fee)

Online registration for Satellite Broadcast Site Coordinators and Webcast Participants will begin March 1, 2006, at http://www.ashrae.org/greenbuildingsbroadcast. Satellite broadcast participant registration will begin March 15, 2006.

If you have any questions, call us at 678-539-1139 or email us at CTTC-SatelliteBroadcast@ashrae.org.

Learn more about ASHRAE sustainability products and services at www.engineeringforsustainability.org.

ASHRAE

Annual Summer Meeting
June 24 to 28, 2006 – Québec City

Dear ASHRAE Chapters members of region II,

I will be Session Chairman during this event. We will need volunteers to act as monitors for all technical sessions. Please first read the invitation letter, available in both English and French, on the Ottawa Valley Chapter website (links following). Thanking you in advance for your cooperation.

Yours truly,
Raynald Courtemanche, ing., M.Sc.A.
Normalisateur
BNQ (Bureau de Normalisation du Québec)

Download the English Invitation Letter here:
www.ashrae.ottawa.on.ca/ashraeoc_communique/Announcements/ASHRAE Summer meeting 2006 - Invitation_English.pdf

Download the French Invitation Letter here:
www.ashrae.ottawa.on.ca/ashraeoc_communique/Announcements/ASHRAE Summer meeting 2006 - Invitation_French.pdf

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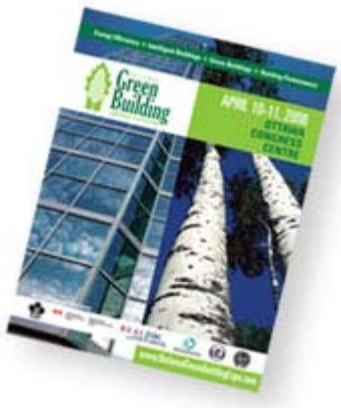

The National Green Building Expo
April 10-11, 2006 - Ottawa Congress Centre

With billions of dollars recently committed to the capital programs for new and renovated hospitals, schools, colleges and universities, this is an ideal time to consider how to make these structures higher performance, more energy efficient and possibly greener buildings.

To help all the public and private sector stakeholders address these issues and achieve these goals, a strongly focused two day event is being held in Ottawa on April 10-11, 2006.

The National Green Building Expo will be held jointly with the Green Real Estate Conference featuring senior level strategic discussions on the business case and economics of undertaking these kinds of measures. PWGSC Deputy Minister David Marshall and GWL Realty Advisors President Paul Finkbeiner will Co-Chair the program. Now is the time for this proactive event.

For more information visit:
http://www.nationalgreenbuildingexpo.com/home/home.htm

Canada Green Building Council

City: Ottawa, Ontario
Date: Wednesday, March 29th, 2006
Location: Novotel Ottawa
33 Nicholas Street
Room: Albion A&B

Canada Green Building Council LEED® Canada-NC Technical Review

The LEED® Canada-NC 1.0 Green Building Rating System recognizes leading edge buildings that incorporate design, construction and operational practices that combine healthy, high quality and high-performance advantages with reduced environmental impacts. This system provides a voluntary, consensus-based, market-responsive set of criteria that evaluate project performance from a whole-building, whole-life perspective, providing a common understanding for what constitute a "green building" in the Canadian context. Understanding LEED is an important step towards reducing environmental impacts and achieving superior economic performance. Architects, engineers, facility managers and building owners who master LEED concepts and processes become knowledgeable practitioners and consumers of green design and construction. The Canada Green Building Council offers an intensive, one-day technical overview of the LEED Canada-NC 1.0 Green Building Rating System at locations across Canada.

What will you learn?
- Introduce yourself to green-building design benefits and strategies.
- Learn how to use the LEED Canada-NC Green Building Rating System.
- Learn about green building resources to use in your projects.
- Acquire the tools and insights for leveraging green design and LEED into Your practice and differentiate yourself in the marketplace.
- Become an educated consumer of sustainable building practices.
- Gain background information to facilitate self-study in preparation for the LEED Accreditation exam (Please note that the exam is offered separately from the workshops).

Who should attend?
- Architects
- Engineers
- Interior Designers
- Builders / Contractors
- Non-profit t organization representatives
- Product manufacturers
- Facility managers
- Building owners / Developers
- All building industry stakeholders interested in better buildings

Registration Fees
CaGBC Members: $365.00 + GST
Non-members: $475.00 + GST
Students: $250.00 + GST

Schedule
Check-in and breakfast is from 8:00 to 8:30 a.m. with the workshop starting at 8:30 and ending at 4:30pm. A detailed schedule for the day will be e-mailed to you prior to the workshop.

To register, visit www.cagbc.org and click on "LEED Training Courses" (then all you have to do is login if you already have a profile as a CaGBC member or create an account to access registration (it is very quick and painless). (cont…)

(…cont.)

For more information contact Belinda White at bwhite@cagbc.org.

Belinda White
Event Coordinator/Program Assistant
Canada Green Building Council
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K1N 5M3
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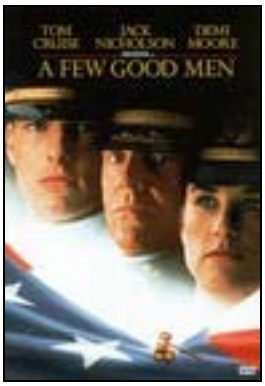
www.cagbc.org



Let's Re-Cast 1992's A Few Good Men!

Remember the 1992 movie "A Few Good Men"? It was a rather good effort with Tom Cruise and Jack Nicholson, both overacting on a grand scale. Here we present a new version of one of the best scenes in the movie, where we re-cast the two main characters:

CAST:
MEP Engineer: *Jack Nicholson*
Architect: *Tom Cruise*

MEP Engineer: You want answers?
Architect: I think I'm entitled to them.
MEP Engineer: You want answers?!
Architect: I want the truth!
MEP Engineer: You can't HANDLE the truth!! Son, we live in a world that has CHILLERS, BOILERS AND SWITCHGEAR. And those PIECES OF EQUIPMENT have to be LOCATED IN ROOMS. Who's gonna DESIGN THEM? You? You, MR. ARCHITECT? I have a greater responsibility than you can possibly fathom. You weep for LOST PARKING SPACES and you curse the SIZE OF MY GENERATOR. You have that luxury. You have the luxury of not knowing what I know: that THOSE MEP SYSTEMS, while tragic, probably saved lives. And my existence, while grotesque and incomprehensible to you, saves lives...You don't want the truth. Because deep down, in places you don't talk about at parties, you want me on that DESIGN TEAM. You need me on that DESIGN TEAM. We use words like DESIGN, CODE, ANALYSIS...we use these words as the backbone to a life spent PROVIDING OWNER COMFORT AND ENERGY EFFICIENCY. You use 'em as a punchline.

I have neither the time nor the inclination to explain my DESIGN to a man who rises and sleeps under the blanket of the very ENVIRONMENT I provide, then questions the manner in which I provide it! I'd rather you just said thank you and went on your way. Otherwise, I suggest you pick up a DUCTULATOR and DESIGN a BUILDING SYSTEM. Either way, I don't give a damn what you think you're entitled to!

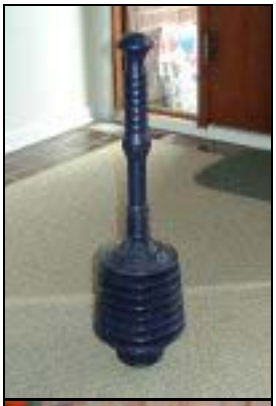
Architect: Did you OVERSIZE THE MECHANICAL AND ELECTRICAL PLANT ROOMS?
MEP Engineer: (quietly) I did the job you HIRED me to do.
Architect: Did you OVERSIZE THE MECHANICAL AND ELECTRICAL PLANT ROOMS?!!
MEP Engineer: You're goddamn right I did!!

Governor

Time to Vent

by Rod Potter
Editor, Governor, Gopher and Webmaster

Picture this: a few weekends ago we had our good buddies Mike and Sylvia up for a visit from Toronto, c/w their lovely kids. We always have an excellent time with them because their kids are virtually the same age as our two urchins. So half-way through the weekend madness Mikey approaches me and asks if we happen to have a toilet plunger. As you can see from the photo at right (herewith entered as **Exhibit 1**), I was surprised to hear him ask this because we always keep our plunger at the ready on the rug just inside our front door. We find that this impresses door-to-door salesmen and other similar types. Anyway it seems that his son Andrew had used the guest washroom, run out of the all-important toilet paper, and resorted to the Kleenex box on the back of the tank (he's gonna' go far this kid). Now country plumbing being what it is, this had an unpleasant effect on the drainage system, and a good dose of plunging action was called for.



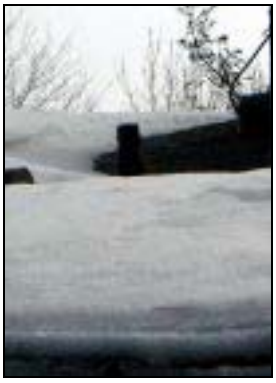
I now enter **Exhibit 2**, our guest toilet. Notice the very fashionable yellow finish with murky accents. Our house was built circa 1968 and many of its original charm is still on show (sigh). Anyway Mikey did the trick with the plunger and all went well for the rest of the weekend. Our drainage system consists of a septic tank, much trepidation on our part, and weeping beds that appear to be on their last legs – there is currently a strip of bare grass visible from the front door of our house, directly above the run-out to the weeping beds.

Jump forward a week from our visit by our Toronto friends. A sheepish Rodders awakes on Saturday morning to find that when the toilets are flushed (any of three), the flushing action is far from satisfactory. The toilets fill up almost to the rim before draining past an obvious obstruction. And we had guests coming for dinner too!

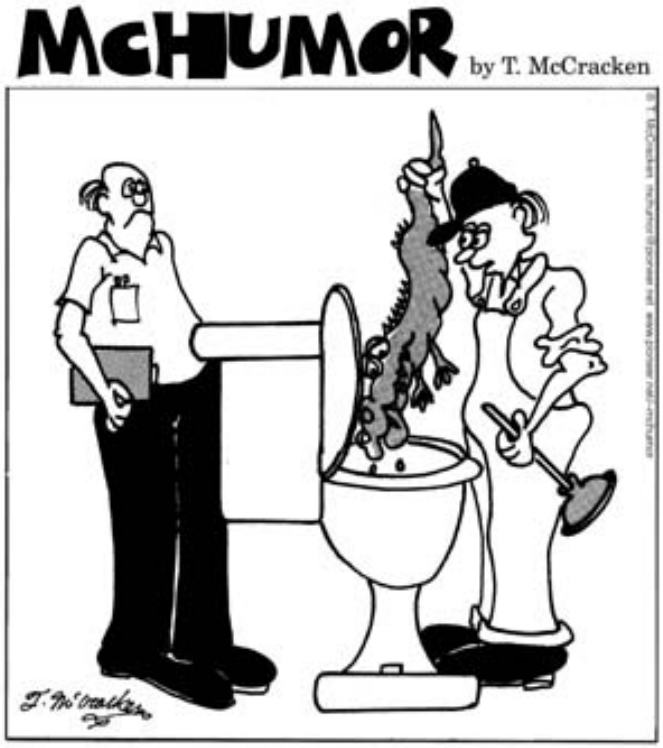
My lovely wife Lindsay was quick to demand the services of a plumber, and me being such a co-operative soul dutifully opened the Yellow Pages, which are filled with huge adverts from companies having names like Roto-Rooter, Scooter-Rooter, Pooper-Scooper, you name it. They all have 24 hour service and a fleet of immaculate vans full of the latest drain clearing technology! Well, the 24 hour service became a 3 hour wait, and when the guy turned up he had driven all the way to Carp from Orleans. He was a burly type resembling Hagrid from the Harry Potter series, and his high-tech equipment was a really old and rather smelly motorized auger. His first question was "is there a clean-out on the plumbing stack where it leaves the house?". I replied that I expected so but I had to think about where the stack resides; it turns out that it lives in the back of the furnace room behind Lindsay's clothes drying rack. I enter **Exhibit 3**, c/w cleanout.

For some reason this burly guy from Orleans had an objection to me taking a picture of him bending over in our furnace room, so I herewith enter **Exhibit 4**, and apologize for its inaccuracy. However it aptly resembles the view from behind on the day. He started feeding the auger down the waste piping and I dutifully held a flashlight over his head so he could see what was happening. He offered me the use of his trusty rubberized flashlight but I declined for obvious reasons. He fed the auger down the pipe for what seemed like ages, nearly to the maximum 50 feet point, and he suddenly said "try flushing the office toilet now, I think I just felt something let go". And hey presto, to my delight, it worked like a charm. I then proceeded to run upstairs and flush the other toilets like a madman – they now worked perfectly. About $150 later the plumber had cleaned up and left, and I was on the phone to Lindsay happily telling her all was well. Then nature called, I flushed the toilet, and it filled up to the rim again before draining away in a most anemic fashion.

So I felt like a **major plonker** I can tell you. Lindsay had been out with the kids and she picked me up so we could all go to lunch at your favorite and mine, MacDonald's. But my mind was not thinking about Big Macs. It was thinking about Big Mucks. I could not believe it – all was well while the plumber was there, then he left and the problem returned. I wracked my brain to figure it out, and then suddenly it hit me. The only difference was that while he was working on it, the cleanout cover was off the stack. The stack had to be blocked above the roof!



I could not wait to get back to the house after lunch, and I raced up the back with a crow bar in hand. Herewith I enter **Exhibit 5**, a rather crappy picture of our vent stack. You can step right onto our roof from the rock-face at the back, and I crawled across the ice-covered snow to find the stack completely covered with ice and snow. It was the day after the nasty Friday winter storm that had caused such devastation on local highways. All I had to do was ram the crow bar through the ice, yell down the Lindsay "try it now!", and all was well in Potterland once more.



"I think I've located your problem."

*** end of Communiqué ***

(your card here!)