

Message from the President



As 2007 draws to a close, I would like to take this opportunity to wish you all a Merry Christmas and Happy New Year. It seems like the new millennium just started but here we are approaching 2008. Life is short, so enjoy the moment.

Some company news, Kate Caskanette my wife and partner retired from the business this year, to enjoy her time in retirement. She helped me found the company in 1998, and the company couldn't have survived without her management and accounting skills. She has been an integral part of the marketing efforts, and met many of our clients at trade shows, golf tournaments and industry events. She will continue to attend these events, because she enjoys them. She remains as a shareholder and company director.

Many of you have met our children Michelle and Bob, as they worked for the company on work terms over the years. Michelle is now a graduate engineer from University of Waterloo, working for the City of Calgary, and next year she will qualify for her professional engineers designation. Calgary is expensive, but she enjoys the big city atmosphere, and has no plans to leave the richest province in Canada. Bob has relocated to Alberta for his final year of school to gain a bachelors degree in environmental science. He has a diploma from Mohawk in the same discipline. He plans to return to Ontario in 2008 to work and get married. He may join the firm to expand our environmental consulting services.

The company moved beyond the family business model with the addition of Jeff Udall as an owner and partner in 2005. Jeff has been cross training in the various engineering disciplines to provide a range of consulting services. He has a degree in physics and second degree in mechanical engineering, with special courses in accident reconstruction and failure analysis. He has completed his masters' degree in structural engineering and additional training courses on the Ontario Building Code. He now handles building claims along with accidents and mechanical failures. Just last month he completed his certified fire investigator training and is gaining on-the-job training to become proficient in building fire investigation. He is fully qualified now to handle mechanical fires such as vehicles.

Along with our associate engineers we are able to provide the full range of forensic engineering services, with a quick turnaround time. We customize reporting for the special needs of our clients, to keep costs low.

Our continued growth demonstrates that our quick and cost effective service meets the needs of our clients. We grew over 20% last year (ending July 31), our largest gain ever. The bar gets ever higher but we are confident that we can exceed our record sales from last year.

Our continued growth will require additional manpower. Stay tuned for more news on that front in 2008. We look forward to the excitement that growth and expansion bring to our company. Our commitment to you our customers is to ensure that all new staff are well qualified and well trained, and we will continue our tradition of excellent customer service.

Rene Caskanette, P.Eng.

Fire Investigating Designation

One of the principle designations held by fire investigators is 'CFEI', or Certified Fire and Explosion Investigator. This designation is given by the National Association of Fire Investigators, or NAFI. The requirements of getting the CFEI designation include attending a 40 hour course on fire and explosion investigation, and successfully passing an exam to test your knowledge of NFPA 921, Guide for Fire and Explosion Investigations which is the standard manual for investigators. As the title says, the book is only a guide and not a requirement, but a fire investigator should have a good reason if they are going to follow some other methodology. Other requirements for getting the designation include having adequate fire investigation experience, education, and references. Being CFEI certified is not mandatory, and there are many well qualified fire investigators without the designation. But having the designation ensures the client that the investigator has reached an appropriate level of competence and knowledge in the field.

In October, Jeff attended the 40 hour NAFI course and successfully passed the exam. He now has the CFEI certification. By obtaining this designation, the knowledge level and experience base in the company continues to grow. We look forward to continuing our education and providing knowledgeable service to our clients.

CATAIR Conference



By Jeff Udall

In August of this year, I attended the annual conference for the Canadian Association of Technical Accident Investigators and Reconstructionists (CATAIR). The conference brought individuals from across the industry to Aylmer, Ontario for a week long discussion on current methods and trends in the practice of accident reconstruction. Speakers at the conference included Rusty Haight who holds the world record for the most number of human subject crash tests (yes, that means he was in the car!), and Jeff Muttart who has done a substantial amount of work on the subject of human perception and reaction, and pedestrian visibility. The conference was attended by police, technical accident reconstructionists, engineers, and researchers.

Yaw Testing

One of the key features of the conference was live testing, and comparison of the results with the formulas that reconstructionists use to predict vehicle speeds and vehicle dynamics leading up to a crash. In one such test, an SUV was driven down a track at a fairly high speed, and suddenly the driver steered sideways. The truck left a series of heavy tire marks on the pavement as it lurched sideways and roared off the side of the track. The motion of the truck as it turns is commonly referred to as 'yaw', which is a term borrowed from the aircraft industry to describe a particular motion of a plane. Pitch and roll are the other two terms. But when a reconstructionist speaks of yaw, he is generally referring to a critical speed for which a vehicle can make a turn. If the amount of friction on the pavement is known, and the radius of the turn is measured, we can predict the fastest speed that a vehicle can make that turn.

The testing was performed, and no one was hurt! We knew the actual speed of the SUV as it started the sudden turn, and we were able to measure the friction of the pavement and the radius of the curve of the tire marks. We then convened back in the classroom and took out our pencils, and tried to predict the speed of the truck. It turns out that those formulas we use actually work! This was no surprise really, but the biggest thing that we learned is what not to do, and the limits of the methods. The testing was a pretty ideal controlled situation, and of course we were able to predict the speed with some accuracy. But if the truck had been doing something different, or the tire marks didn't quite fit the profile, then the method falls apart. These kinds of things are important when doing this work. It is easy for an investigator to improperly use a formula and come up with a perfectly plausible result. But an incorrect result can have significant negative consequences for the client.

(continued on back page)

Caskanette Udall
Consulting Engineers

www.caskanette.on.ca
1-800-920-5854

Product Liability for Fires

By Rene Caskanette



We see many fires each year that result from product failures. Some of these eventually lead to product recalls, while others do not. This year we examined a dehumidifier, a tower fan, a dishwasher, and a heat recovery ventilator that caused fires. The manufacturer in cooperation with the Canadian Standards Association (CSA) eventually recalled each of these products.

Our investigations played a role in some of these recalls. When we encounter a fire from an appliance we have the appliance stored for examination by the various interested parties. The manufacturer and retailer are invited to participate in the destructive examination of the evidence as outlined in the ASTM standard for evidence handling and examination. CSA is also notified and invited to attend, since these products are normally CSA approved. CSA use data from these examinations when considering product recalls.

CSA and the U.S. Consumer Products Safety Commission both maintain on-line databases of recalled products. Transport Canada and NHTSA do the same for vehicle recalls.

Recent recalls for products causing fires include toasters from Salton Inc., IonizAir purifiers from Razor, Maytag dishwashers, Venmar heat recovery ventilators, Holmes tower fan heaters, Genesis gas grills, Bombardier Ski-Doos, Husqvarna lawn tractors, Sequoia wood burning fireplaces, Black & Decker cordless lawnmowers, and Bunn-O-Matic coffeemakers. In addition there have been several warnings from CSA regarding counterfeit products, normally from China bearing a false CSA approval tag. Such items as light bulbs, extension cords and circuit breakers have been identified as counterfeit.

This is just a small sample of the wide range of products that are hazardous and are causing fires. There are many more products that are hazardous for other reasons and have been recalled to prevent electrical shock, injuries such as cuts, burns and amputations, and of course health related issues such as allergies.

It is a dangerous world we live in. Approval agencies like CSA are in place to improve the level of safety at the consumer level, but vigilance by the consumer is also needed. If a product is ridiculously cheap, it could be a counterfeit knockoff. Consumers should avoid purchasing such products to safeguard their home and life. Each Christmas dangerous lights and candles find their way onto shelves of discount stores, and fail during use, resulting in fires.

It's a difficult job to keep up to date with dangerous product recalls. Adjusters need to investigate products involved in fires or injury claims, to determine if recalls are in place. Even if the product has not been recalled, it may be under investigation, and incidents need to be reported to agencies such as CSA so they are aware of the problems. Product liability can still be proven regardless of the recall status of a product. When product failure and product liability are a consideration, hire an expert to document the scene evidence and secure exhibits for an examination by interested parties. If the evidence is mishandled, the case may fail.



Caskanette Udall
Consulting Engineers

www.caskanette.on.ca
1-800-920-5854

Event Data Recorders

In another test, good old Rusty crashed two cars together. The goal of this test was to evaluate the information from the Event Data Recorder, or better known as the 'black box'. In the photos at the side, Rusty is driving the minivan, while the car was pushed out into the path of the van by a third vehicle from behind. Again, speeds and directions and final rest positions of both cars were known or measured. Then the information from the black box was downloaded and compared to what was known. There were some notable differences. We discussed what the differences were and why they appear. These are differences that an investigator must be aware of. Just because the computer says something, doesn't mean that is what happened in reality. I think we all have some experience in this with computers every day. I always say that computers do exactly what you tell them to do, not what you want them to do. So as a reconstructionist, we must be aware of the differences. Such details can be critical to the outcome of an investigation, and the client's interests are stake.

Attendance at the CATAIR conference was a good experience. I learned some new things, re-learned some old things, and met with a great bunch of enthusiastic people. What I found the most amusing part of the conference was one of the tests done by Jeff Muttart. He was testing subject's response to a computer simulated driving test after having a few drinks. It was an interesting study, but the funny part was that none of the participants managed to blow over the legal limit, even after having several 'pops' at the social event one evening. It just goes to show that any testing can have its downfalls no matter how much you try to control the limits.



TRAINING SEMINARS AVAILABLE

We provide free on-site training seminars for the insurance industry on Forensic Engineering topics of interest. We currently have the following programs available:

- ▶ Nighttime accident reconstruction, visibility
- ▶ Residential fuel oil spill remediation
- ▶ Fire investigation using NFPA 921 protocols
- ▶ Heating appliance fire investigation
- ▶ Initial fire scene investigation protocols
- ▶ Mould assessments

These seminar programs are tailored to the specific interests of the audience, and use case studies and photographs to illustrate points under discussion.

We would be pleased to discuss your training needs, and develop a program suitable for your firm. New topics can be added to our library as needed.



K-W OIAA Trade Show - (L-R) Jeff Udall, Kate Caskanette and Rene Caskanette

Caskanette Udall Consulting Engineers

www.caskanette.on.ca
1-800-920-5854