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President's Message

We should all be very proud of our association and continue to take an active role in its success. We receive and, hopefully, read the *OH Forum*, our excellent quarterly newsletter. We participate in annual educational events, such as the PDCs and symposia, as delegates, presenters and behind-the-scenes planners.

Despite this, how much do we know about the many volunteers pushing the wheels behind the activities that make the Occupational Hygiene Association of Ontario the quality organization that it is?

If we review the credits on page 2 of each issue of the *OH Forum*, we will see a list of just a few of the volunteers who make the OHAO work.

To start with, we have three "Presidents". Each year, the members elect a "President Elect" and we say farewell and thanks to the "Past President". At the same time, the current "President Elect" moves into the position of "President" and the current "President" moves into the position of "Past President". We also have a Secretary-Treasurer who is elected for a three year term and may run for re-election at the end of his/her term. Completing the Board of Directors are six Directors normally elected for a three year term. They may also run for re-election at the end of their term.

In March, we schedule the Annual General Meeting (AGM) in conjunction with the Spring Symposium. The AGM provides the Board of

Directors with the opportunity to report on their activities over the past twelve months, allows for the election of Directors and Officers, and lets members bring forward important issues for discussion and Board consideration.

As with most not-for-profit organizations, there are two types of committees – standing and ad hoc.

The Standing committees include:

- a) The *Newsletter and Publications Committee* whose primary responsibility is to publish four issues of the *OH Forum* annually.
- b) The *Hugh Nelson Award Committee* that is responsible for reviewing submissions and if warranted, selecting the recipient of this most prestigious award.
- c) The *Membership Committee* who examines the credentials of applicants and recommends their acceptance to the Board of Directors for each of the categories. This committee also promotes membership in the OHAO and each year personally contacts members who have not yet paid their annual dues.
- d) The *Nominations Committee* that is responsible for issuing a "Call for Nominations", recruiting potential candidates and conducting the election at the AGM.
- e) The *Program Committee* that is responsible for the significant task of putting together the program and securing speakers for the

OH FORUM

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The Occupational Hygiene Association of Ontario is an Ontario-based organization whose members are dedicated to the practice of occupational hygiene. Occupational hygiene is concerned with the protection of people's health from hazards arising in or from the workplace.

To develop and promote the profession of occupational hygiene, and to serve the interests of our members by:

- sponsoring professional development, training and research;
- promoting public and legal recognition;
- developing partnerships with stakeholders;
- providing public education;
- fostering communication and networking through publications and meetings.

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- Spring and Fall Symposia that are held annually.
- f) The *Public Affairs and Education Committee* that is responsible for determining the subject matter and confirming speakers for professional development courses (PDCs) that are generally of one or two days duration and scheduled in conjunction with the above mentioned symposia.
 - g) The *Canadian Council of Occupational Hygiene (CCOH) Committee* which acts as OHAO's liaison with the CCOH.

Presently, there is only one ad hoc committee.

- h) The *Historical Task Force* that is preparing a book on the history of the OHAO from its early days to the present. The book is almost ready to go to press. Distribution details will be announced shortly.

The day-to-day administration of the Association's affairs is handled by our contracted management company, Fletcher Wright Associates Inc.

There are many people involved in OHAO activities, most of whom are volunteers. We gratefully acknowledge their efforts and willingness to contribute their time to the OHAO.

We invite our readers to join the different committees and/or the Board and Directors. It is a challenge, but also a great fun helping move ahead our Association!

Alberto Behar P.Eng. CIH
President

Editor's Message

Christine Sidhom, MSc(A), CIH, CRSP
Mount Sinai Hospital



I recently asked some of the *OH Forum* contributors for their favourite go-to occupational hygiene resources. The reason for this question was that I remember a time when, as an occupational hygienist, one may have said Patty's Industrial Hygiene and Toxicology or the NIOSH "White Book" quite quickly or Sax's Dangerous Properties of Industrial materials, but I did not remember such an easy response in recent times. So I posed the question and I have to say that it did get some of my colleagues to think about where they obtain reliable information both from the internet or other resources. Reliable seemed to be a key word when it comes to internet information, as it is in all fields. There was agreement that you do have to be careful about resources. One colleague pointed out that it was almost easier before the age of the internet because we know to go to 4-5 specific

resources for everything we needed. For some specific topics, such as microbiology, it is difficult to get good hygiene resources. From an academic point of view, another colleague cited the NIOSH Pocket Guide and the Scholar's Portal for journal searches (Scholar's Portal is broader than NIOSHTIC and more narrow than Medline in its searches). The IRSST was mentioned as a great site for research articles. Finally, one colleague made reference to resources from the internet, such as the NIOSH analytical methods manual, that can be downloaded on a USB key and referred to an article he wrote for the newsletter of the Canadian Council of Occupational Hygiene which I encourage you to read http://www.ccoh.ca/PDF_files/Spring 2008.pdf. For my part, especially for transmitting information to employees and managers, I will often go to the

CCOHS website as the OSH answers have served me well.

I am always on the lookout for good reliable internet resources that let us know about new research or programs in occupational hygiene and other safety related fields, especially as editor of the *OH Forum*. I also hope for the *OH Forum* to bring information to Ontario occupational hygienists. If you want to write about another invaluable hygiene resource, or about any other occupational hygiene topic, please contact me. I look forward to new contributions for each issue.

Enjoy the rest of winter.

Christine Sidhom, MSc(A), CIH, CRSP

2009 OHAO Fall Symposium

Negin Ghanavati, MHS

The OHAO Fall Symposium took place on October 28th this year and began with a presentation of the EACO mould abatement guidelines by Steve Fulford (Stantec, President of EACO). Details of the presentation included asbestos assessments and abatement following unplanned/accidental release, lead exposure on construction sites, and the development of the hazardous materials worker trade designation in the construction industry. The 253H Hazardous Material Worker schedule of training (July 2009-EN.pdf) can be found at www.eacoontario.com.

Of special note were the new changes made in the EACO guidelines. Most importantly, HVAC or mechanical rooms with less than 10 ft² are now considered Level 1 (used to be level 2 or 3). Abrasive blasting methods, such as dry ice, sand, or soda are described. If dry ice is used, supplied air must be provided for the worker. For more information please visit the EACO website at www.eacoontario.com.

Dr. Leon Genesove (Chief Physician, MOL) gave a presentation on H1N1 pandemic Influenza. He explained the parallel to the SARS outbreak, in that H1N1 also occurred in two waves. It was decided that vaccines should be first given to the high risk population and then to others. Those who have been diagnosed with H1N1 are advised to stay home. Furthermore, hand sanitizers containing more than 60% alcohol are considered effective in limiting the spread of the virus. Non-alcohol based sanitizers are considered ineffective against H1N1.

Ms Jessie Callaghan (Senior Technical Specialist – Chemical Hazard Evaluation, CCOHS) presented a talk on WHMIS after GHS: Planning and Preparing for Change. GHS is the Globally Harmonized System of Classification and Labelling of Chemicals. It covers all chemical substances and mixture and is the next step in the continuous process of improvement for hazard communications. The overall goal of the GHS is effective worldwide communication of hazards and precautions on labels and on SDSs.

Ms. Callaghan went on to explain why harmonization was important. She mentioned that different countries have different systems for classifying chemicals and communicating product hazards, resulting in problems for global trade and risks to workers from inconsistent or confusing hazard information. As an example of this, a chemical with an oral LD50 of 257 mg/kg is considered ‘toxic’ in Canada, U.S., Japan, and Korea; ‘harmful’ in E.U., Australia, Malaysia, and Thailand; ‘moderately toxic’ in China; ‘hazardous’ in New Zealand; and ‘non-toxic’ in India.

The GHS implementation is meant to provide consistent hazard information. It will allow more efficient administration and enforcement of hazard communication laws, as well as reduce hazard communication costs and make compliance easier for suppliers and employers. GHS will also reduce barriers to international trade.

The current WHMIS system after the implementation of GHS will have new

classification rules and hazard classes, new label requirements, new hazard symbols/pictograms and a new format for Safety Data Sheets (formerly Material Safety Data Sheets). The new GHS will cover all hazardous chemical substances and mixtures and some not previously covered by WHMIS (namely, pharmaceuticals and explosives). The GHS hazard groups include health hazards, physical hazards and environmental hazards, with each group having its own classifications. Some GHS hazard classes are different from the current WHMIS hazard classes (i.e. explosive, aspiration hazard, specific target organ toxicity – single exposure, hazardous to the aquatic environment, hazardous to the ozone layer).

Another noticeable change in the new system is that the original 9-section Canadian MSDS will be replaced by a standardized 16-section format. The great advantage in this is that all SDSs will have the same layout so information will be easier to find. There will be changes in the hazard symbols/pictograms, hazard statements, signal words and precautionary statement will be included.

Ultimately, GHS will affect the supplier, the employer and the worker. It will mean more testing for the supplier and making sure that the labels are updated. The employer will need to provide updated training for the workers on the changes under GHS. Workers need to stay current on the materials that they are working with and their hazards.

Dr. Franco DiGiovanni (Airzone One Ltd.) delivered a presentation on certificates of approval (C of A) for air emissions in Ontario. First, he described those who are exempt from requiring a C of A include O. Reg. 273/03, routine maintenance, “clean” air exhaust, small residences, < 1.5 MMBTU/hr site-wide heat input capacity, agricultural operations. Those who are not exempt include general plant exhaust where plant air has contaminants and “home-made” exhaust devices.

Dr. DiGiovanni mentioned that there have been some developments (Reg 419 – air only) that include new U.S. EPA models (SCREEN3, AERMOD) and tighter standards for some chemicals. The newest developments, as of 2009, include multimedia and cumulative effects discussions, sector-based approaches (Maximum Achievable Control Technology (MACT) in Ontario), and noise impact assessments aligning with air assessments. Reg. 419 has raised the bar for air standards, also requiring that compliance with these standards be assessed as soon as possible.

Three case studies were presented by Ms. Lorraine Shaw (McMaster University) and Mr. Todd Irick (WESA). The first presentation was on the new ABIH ethics requirements. The message was that beginning in 2010, new applicants and CIHs/CAIHs must complete at least two hours of ethics coursework as part of their maintenance requirements. For CIHs/CAIHs, at least two hours (0.33 CM points) are required for each five year CM cycle. The new requirements begin in the 2006-2010 round. The purpose of the new ethics requirement is to ensure integrity and professional conduct, protect confidentiality of sensitive information, reduce conflicts of interest and protect intellectual property from plagiarism.

The second case, presented by Mr. Irick, highlighted the concentration of trichloramines in swimming pools. He described a study conducted by NIOSH on the concentration of trichloramines at a water park. The study found that trichloramine levels at the water park were similar to indoor pools. Lifeguards had more complaints and symptoms than other employees. It was recommended that

ventilation be further assessed (ASHRAE recommends 4-8 air exchanges per hour). Furthermore, CO2 concentration, pool chlorine and pH levels, as well as the number of occupants, should be taken into account. These numbers should be logged in order to establish a possible correlation. It was also recommended that there be additional nitrogen trichloride monitoring

The third case study was on the ESA requirements for remediation of grow-ops, presented by Mr. Irick. The challenges in dealing with grow-ops, he mentioned, are that they are difficult to locate, they make a great deal of money, and if they get caught, the penalty is not too severe.

The current problem in dealing with the remediation of grow-ops, and it is a problem that many OHAO members agreed with during this presentation, is that there are no standard requirements for dealing with the remediation of grow-ops. Each city seems to follow its own remediation standards, often borrowed from another American or Canadian city’s set of standards. The ESA has developed requirements for the remediation of grow-ops which provides some guidance on how to deal with these situations.

Mike Grey (Candesco) presented the last talk of the day on the medical isotope supply shortage; causes, implications and occupational hygiene issues. He explained that Technetium-99m is the most commonly used isotope in single photon emission computerized tomography (SPECT). The isotope is man-made (no stable isotopes available) and currently in short supply.

Subjects suggested for future presentations

- More case studies (many similar comments), more time for case studies, case studies as a panel discussion
- Ethics
- Meth labs & more on grow-ops
- Risk assessment
- Measurement of radiation exposure
- More OH representatives from different industries
- Martin Harper from NIOSH
- Industrial ventilation
- REACH - Registration, Evaluation, Authorisation and Restriction of Chemical substances

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Mr. Grey went on to describe the hygiene issues with cemented high level liquid waste (HLLW). The challenges include particulate contamination, iodine and xenon emissions, worker exposures, possible leaching of mercury, and production of methyl iodide from cement. He mentioned

that possible solutions to these problems might be decaying HLLW to reduce decay heat, neutralization of HLLW, improving the mixing of HLLW and cement powder, and filtering gases that escape from waste cans (HEPA & TEDA-charcoal).

Overall, the symposium was a success with informative and interesting presentations. All presentations were given good reviews.

Health Physics



—Column Editor—
Michael Grey, CHP, ROH
SAIC Canada

International Atomic Energy Agency Basic Safety Standards

The system of radiological protection used in Canada and in most other industrialized countries is the product of the work of a number of international and national organization, committees and agencies. These have developed into an informal, but nonetheless well-defined hierarchy with the product of each stage being based on the output from the preceding stage and serving as the basis for the subsequent stage. The individual stages of the radiation protection hierarchy are:

- Research in radiation biology, epidemiology, etc;
- Reviews and summaries of radiation risks and effects published by the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and other similar bodies;
- Recommendations on general radiological protection practices developed by the International Commission on Radiological Protection (ICRP);

- Detailed standards and guidelines on general and specific radiological protection practices issued by the International Atomic Energy Agency (IAEA) and other international, regional and national agencies such as the International Organization for Standardization (ISO), Commission of the European Community (EC) and the Canadian Standards Organization (CSA);
- Regulations, standards and licenses issued by the Canadian Nuclear Safety Commission and other federal and provincial regulatory agencies; and
- Policies and procedures implemented by facility operators and other licensees.

The most recent Recommendations of the International Commission on Radiological Protection were published in March 2007. These recommendations were written at a very high level and they generally include a discussion and justification of the individual recommendations. The International Atomic Energy Agency turns the ICRP's general guidance into the detailed "International Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources". The Basic Safety Standards (BSS) are intended as a model national radiation protection regulation and they are adopted verbatim

as national regulations by some countries. The current version of the BSS was published in 1996 and it is based on the 1990 Recommendations of the ICRP but the IAEA is currently working on revising the BSS to bring them in line with the 2007 Recommendations. The current working draft of the revised BSS, which is version 2.5 and will be renamed the "International Basic Safety Standards for Protection against Ionizing Radiation", was released for review and comment by the IAEA member states in November 2009. It is hoped that a final draft will be ready by the end of January 2010 and, barring unexpected complications, they should be published by the end of 2010.

Radiation protection regulations (RPR) in Canada are generally consistent with the BSS but there are a few differences that are intended to address unique national interests and concerns. For example, the ICRP and the BSS recommend that the effective dose to a pregnant worker should not exceed 2 mSv over the course of the pregnancy but the RPRs prescribe a limit of 4 mSv over the "balance of the pregnancy" which is deemed to begin once the worker has informed her employer of her pregnancy. This limit was adopted following consultations with women employed in the nuclear and other stakeholders. The consensus was that the 2 mSv limit might place women at a disadvantage in

the workplace and, since Canadian regulations require all Nuclear Energy Workers to receive training on the risks of radiation exposure and the methods available to reduce exposure, the prospective mother could make informed decisions regarding the protection of her unborn child.

At present, the CNSC has not announced any intention to amend the RPRs follow-

ing publication of the revised BSS but it is widely expected that the RPRs will be revised sometime following the publication of the BSS. Ontario Bill 179 (An Act to amend various Acts related to regulated health professions and various other Acts) will make some amendments to the Healing Arts Radiation Protection Act but none of these amendments are related to radiation protection. The Ontario Ministry

of Labour has not announced any intention to amend the X-ray Safety Regulation (Regulation 861). Interestingly, this 1990 regulation is still based on the 1976 Recommendations of the ICRP and it is becoming increasingly inconsistent with current national and international practice in radiation protection.

Noisy News

—Column Editor—

Tim Kelsall, CIH, ROH
Noise and Vibration, Hatch



Designing Quiet Workplaces

Occupational noise regulations around the world all have a similar format:

- There is a limit on the daily average noise exposure of an employee, using a 3 dB exchange rate in most countries and 5 dB in the US, Quebec and other jurisdictions who have not updated their regulations recently. Most industrial hygienists and regulators agree that this limit is 85 dBA for an 8 hour shift and 83 dBA for 12 hour workdays.
- The employer is supposed to employ all “practical” measures to quiet the workplace. The wording varies a bit from place to place but the intent is usually along these lines.
- If this is not successful, then the employee’s time is to be limited or hearing protection is to be used.

Time limits on exposure are rarely practical. Even a 3 dB excess would require

halving the work time, which is usually not possible. A 10 dB reduction would require less than 48 minutes exposure, with the rest of the day spent in quite surroundings.

Most readers are already familiar with the pitfalls of finding suitable hearing protection. While hearing protectors can provide 20-30 dB reduction under certain conditions, some people get as little as 10 dB or less from muffs and 5 dB or less from plugs.

Clearly the best solution is to quiet down the workplace, either during design or as a retrofit, which is why most regulations require it first. Yet the regulations give very little guidance and noisy workplaces are still very commonplace, despite occupational hearing loss being completely preventable and still one of the leading causes of occupational disease.

In Ontario, community noise must be considered during design of most new industrial facilities within 1500m of residences. This requires an assessment be performed meeting MOE guidelines before construction starts. At this point, the same sort of study is not required to protect employees’ hearing that is required to prevent neighbourhood annoyance and this often means

that very little attention is paid to in-plant noise.

There are a number of tools and approaches which can help industry address in-plant noise control more proactively. One of the first requirements is a commitment to designing quiet workplaces. Most large companies, even in the US, set a target of 85 dBA or 83, depending on shift duration, yet their health and safety people often don’t have any involvement in design of new facilities. In most cases, the most that is done is to set a noise requirement of 85 dBA at 1m for all new equipment. A little thought would quickly show that if multiple pieces of new equipment all producing 85 dBA at 1m are put together in a crowded highly reverberant space the chances are good that the result will not meet 85 dBA, let alone 83.

When CSA Z107.58 was published it suggested a rule of thumb of 80 dBA at 1m for equipment to meet 85 dBA overall. Since that time, more and more industries have started to use 12 hour shifts, so that limit should probably be lowered. This is relatively easy for lower powered equip-

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ment, say below 100 kW, which can probably meet 75 dBA at 1m in many cases. Even if the limit is set correctly, one often gets back varying quality noise data. Surprisingly perhaps, it is the common noisy equipment which has the best data. Good information is usually available for fans, motors, pumps, compressors. However care is still necessary. For example, motor sound levels are usually quoted for an unloaded motor. Very few motors are run without a load in practice and can easily be several dB higher under load.

Requiring a standard noise emission declaration showing that the equipment meets 75 or 80 dBA at 1m will go a long way towards achieving a quiet workplace. CSA Standard Z107.58-2002 Noise Emission Declarations for Machinery is a voluntary guide on noise emission declarations, i.e. a statement of sound levels produced by equipment. The standard is compatible with European regulations requiring all machinery to be accompanied by information on the noise it produces. Measurements are made according to ISO standards and include estimates of the likely variability of the measurements. Z107.58 specifically recommends use of a declaration stating the level and uncertainty as two numbers, rather than adding them together into a single number as is sometimes done elsewhere. Using a recognised standard makes it easier for both purchasers and suppliers to accurately communicate the correct noise data.

Putting the package together requires predicting the result of adding so many pieces of equipment producing so much sound into a particular room. Despite con-

siderable effort in the area there are very few predictions available to help with this step, in part because the demand for such software has been small. The simplest approach is either standard reverberant textbook modelling for rooms which are approximately cubic, or for long low buildings simply assuming sound levels drop by 4-5 dB per doubling distance along the shop. The latter has been confirmed by measurements in several shops. Some software is available, e.g. Rap-One from Soft dB in Quebec. However none of them cover every situation and their results must be used with some care.

Finally there is often the need to quiet down either older equipment or new equipment which cannot be purchased with a low enough sound level. If at all possible, work with the equipment supplier to purchase the noise controls. For example, although the noise enclosures provided with compressors are expensive, they are not nearly as expensive as trying to reproduce the engineering and years of experience with the product which go into the manufacturer's enclosure. I have been involved with the successful design and installation of enclosures to bring a compressor room down below 85 dBA. I have also been involved with compressor rooms with similar results achieved simply by buying compressors with the appropriate enclosure from the manufacturer. The latter is a much more straightforward approach.

When a specific piece of equipment must be enclosed, there are specialty noise enclosure suppliers who can custom design these enclosures. Some of the things that should always be considered are adequate ventilation, maintenance

access, how products or materials enter or leave the enclosure, materials of construction, lighting, fire protection, dismantling, etc. Poor enclosures invariably get left off the first time the equipment is serviced.

The room itself can be treated to reduce reverberant build-up of sound. Add-on treatment is usually only cost effective in smaller rooms such as compressor and pump rooms. However incorporating sound absorption into the building design is effective in much larger buildings. Custom sound absorbing concrete blocks are often seen in gyms and swimming pools. Insulated buildings can use either a perforated inner liner panel or no inner liner at all. In either case a vapour barrier of thin plastic is essential in our climate.

In many industrial situations it is the little sources which make a difference. I have seen one steam leak elevate the sound level throughout an entire boiler room by 4-8 dB. All air and gas exhausts must be fitted with silencers. Any impacts should be cushioned, including the interiors of bins and mills. It is surprising how many suppliers of screens, mills, etc. can only provide sound levels for their product when it is not handling material. This is of very limited use in practice.

Finally there is a lot that can be done with intelligent layout of a plant if caught early enough. Most equipment is installed in pairs when a backup is required. This means that while one piece is down for maintenance the other is operating right beside it, exposing the maintenance people to unnecessary noise exposure. Putting the equipment in separate rooms can prevent such unnecessary exposure.

Most health and safety professionals do not have the acoustics background to adequately handle noise predictions or design noise controls. There are however acoustical consultants available across the country with the expertise to help with this work. As this is often not a large com-

ponent of many consultants' work, you should be looking for someone with significant experience with industrial noise control, preferably in an industry similar to yours. They should be able to describe similar work which they have done to your satisfaction, preferably several

projects. In many cases the cost of their services is more than recovered by avoiding the need for retrofitting noisy facilities after they have been put in operation.

F1

—Column Editor—

*Jim Desormeaux, OHST, COHC
Ontario Power Generation*



I recently “upgraded” from a point and shoot camera to a dSLR (Digital, Single, Lens, Reflex: removable lenses, has a reflex mirror which allows live optical viewing through the lens taking the image) camera. I put upgraded in quotations because it depends what I am going to use the camera for. Both cameras have their pros and cons. The point and shoot is great if you are in the field and you just want a quick picture of something. It fits in my pocket and I just press a couple of buttons and I have a picture. My preference in terms of quality of shots is with the dSLR, but for convenience, the point and shoot sometimes wins out. Another thing to keep in mind is that the camera industry is quickly evolving faster than ever before. The point and shoot, the dSLR, and even the video camera seem to be amalgamating. Since I do not have unlimited space for this article, I will briefly go over some points to help you decide.

The first order of business is megapixels. Many point and shoot camera now offer specification of 10 or higher megapixels.

The dSLR I just bought offers 15 megapixels. However, the difference is in the image sensor of the camera. The point and shoot will have a smaller image sensor (sometimes up to 25 times) and forces the camera to work slower ISO settings (the sensitivity of the camera sensor), which produces more noise, or more graininess in the picture. I would rather have a camera with a larger image sensor and less megapixels.

In addition to the image quality, here are some strengths of the dSLR:

- Adaptability – since the dSLR have the ability to change lenses, this opens up a world of possibilities for the person taking the picture. I just bought a teleshot lens with 15x zoom, most point and shoot hover around 3x.
- Speed – dSLR's are generally pretty fast. Try taking 4 or 5 pictures consecutively with a point and shoot.
- Optical Viewfinder – You get what you see in a dSLR due to the reflex mirror.
- Large ISO range - dSLRs offer a wider array of ISO settings which means you have more opportunities for picture taking (especially in low ambient lighting).

- Manual Controls – these are usually at the fingertips of the photographer. This gives you more opportunities and options.
- Quality Optics – usually the lenses that are attached to a dSLR are superior to the point and shoot.

Some of the weaknesses of dSLR's include:

- Price – even though prices are being reduced dramatically, they are still more expensive.
- Size and Weight – you can't put it in your shirt pocket
- Maintenance – dust on an image sensor needs cleaning because it will leave your images looking blotchy. Cleaning your image sensor may not be for everyone and could be done professionally (which, of course, costs). However, the new cameras have a self clean sensor which alleviates most of the above.
- Noise – dSLRs generally produce more noise when operating than the point and shoot cameras.
- Complexity – if you are new to cameras you may be a little overwhelmed at first by the array of settings and features. The learning curve can be

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quite steep. However, having said this – all dSLRs have a fully Automatic mode and have the normal array of semi-auto modes that point and shoot digital cameras have.

The pros of the digital point and shoot camera are:

- Size and Weight – they fit in your shirt pocket
- Quiet Operation – they do not produce any mechanical noise.
- Auto Mode – basically, you just point and shoot (this doesn't mean you will get a great picture though)

- Price – you don't have to purchase extra lenses, bags and filters and this makes it much cheaper

The cons of the digital point and shoot camera are:

- Image Quality – as mentioned above. However, if you require a small photo (4"x6"), a photo that you may need to send to a client via the internet and are not planning on using your images for major enlargements, or in professional applications, then the quality of point and shoot camera just might be enough.
- Smaller ISO range – as mentioned above.
- Speed – as mentioned above.

- Reliance upon LCD and not view-finder – you do not necessarily get what you see
- Manual Controls Limited – some point and shoots do have some controls (aperture priority and shutter priority) but are not easily accessible and buried in the menu controls.
- Less Adaptable – no room for expansion.

So which one should you buy...that's easy...both!

Comments may be sent to j.desormeaux@opg.com

Toxic Reductions Act

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The Toxics Reduction Act (TRA) and the accompanying Regulation 455/09 came into effect on January 1, 2010 in Ontario and is part of Ontario's Toxics Reduction strategy. It was formally Bill 167 that was passed in June 2009. While there will be some impact in the manufacturing sector as a result of this Act, it is meant to represent a balanced approach to protecting human health and the environment, and in support of a green economy in Ontario.

In summary, the TRA will require facilities to:

1. Track and quantify the toxic substances from a prescribed list used or created at the facility;
2. Prepare a toxic substance reduction plan for each toxic substance used or created at the facility and have the plan certified both by the highest ranking employee at the facility with management responsibilities and by a proposed accredited toxics reduction planner;
3. Prepare summaries of their plans and make them available to the public in accordance with regulations;
4. Report to the Ministry on their progress in reducing toxic substances and make certain information available to the public in accordance with regulations; and,
5. Report to the Ministry on any substances of concern used or created at the facility, most likely on a one time basis

About 1,000-2,000 manufacturing facilities are expected to be affected by this. More specifically, the manufacturers identified by NAICS (North American Industry Classification System maintained for Canada by Statistics Canada) codes commencing with the digits "31", "32", "33" (most sectors of manufacturing) and "212" (mining and quarrying except for oil and gas) will be required to account for the toxic chemicals manufactured, processed or incidentally produced at their facilities.

The list of toxic compounds and the reporting thresholds will be similar the National Pollutant Release Inventory

(NPRI), in addition to Acetone, and will be phased-in over 3 years. If the reporting criteria are met for the toxic compounds, the facilities will have to prepare and submit a Toxics Substance Reduction plan that is certified by both the highest ranking employee with management responsibility at the facility and an accredited Toxics reduction planner. The details of the certification requirements for the toxics reduction planner would be proposed in a later regulation reported to be released in 2010. The proposed regulation prescribes the toxic substance and employee thresholds which are the same as the NPRI thresholds. For example, for acetone, as prescribed by Ontario Regulation 127/01, the proposed thresholds are 3 tonnes and 20 000 employee hours worked (approximately 10 full-time employee equivalents). The Ministry of Environment would inform stakeholders and the public of any changes made to the thresholds through the Environmental Registry.

One of the main objectives of the act is information to the public about toxic substances. The Ontario government plans to establish an electronic reporting system and a web site which would enable Ontarians to monitor toxics use and releases in their communities, as well as actions taken by facilities to reduce toxics. The government also plans to provide Ontarians with the necessary knowledge to make informed choices and support a domestic market shift to greener products.

It is important to remember that Ontario's Toxics reduction strategy was built upon the recommendations of the Toxics Reduction Scientific Expert Panel and consultations with business and industry, and environmental and health organizations, including Cancer Care Ontario and the Ontario Medical Association. The TRA also provides for linkages with the Ministry Health and Long-Term Care.

The TRA also includes provisions to create regulations on the prohibition or regulation of the manufacture, sale or distribution of a toxic substance or anything that contains the substance and to require the manufacturer, seller or distributor to provide notice to the public. Consultation with stakeholders and the public would take place prior to the development of any regulation under these new authorities.

At the end of the day, the TRA will provide opportunities for the manufacturing sector to reduce its toxic footprint by reducing the release of toxic chemicals in the air, water, land and consumer products, and to demonstrate its environmental commitment. Through the Toxics Reduction Act, it appears that Ontario is the leading province in Canada in toxics reduction legislation

The TRA can be consulted at http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_090455_e.htm

Reference : <http://www.ene.gov.on.ca/>

Changing Information?

Title, employer, address, telephone, email changing? Don't forget to advise the OHAO office so the appropriate changes can be made to our records.



OHAO Spring Symposium and PDC

Black Creek Pioneer Village

Thursday March 25, 2010

OHAO Spring Symposium and AGM

A presentation by the Historical Task Force will be part of the symposium

Friday March 26, 2010, Two 1/2 Day Professional Development Courses

Morning - OH Report Writing

Interactive and informative session planned to improve report writing skills.

Afternoon - Ethics in Occupational Hygiene

Mixture of theory and practical applications of real life ethical challenges.

Designed to provide content for new ABIH requirement for ethics education in each maintenance point cycle .

Full course details to be announced soon.

Watch for details at www.ohao.org and in your in-box.

Subject Matter Expert (SME) Volunteers

From time-to-time, the OHAO may be requested to comment on proposed standards and regulatory changes that quite often have a very short response time. To better prepare the OHAO to make scientifically valid and measured responses, the Board of Directors would like to develop a list of subject matter experts that it could draw from to assist in the preparation of submissions on behalf of the OHAO.

If you have formal education and/or extensive experience that may contribute to a position paper on an occupational hygiene issue, please forward your name, area of expertise and most current contact information to the OHAO office via email (office@ohao.org).