

a design flaw that's replicated itself across many makes and models," Conwath reports, noting that such batteries are being supplied to manufacturers, including Sony, Dell and Acer.

Conwath says while newer laptop models still use the lithium-ion batteries — which provide the best power source for portable electronics — the advent of more efficient processor technology makes laptops less likely to overheat, thereby lessening the possibility of fire.

Although a step in the right direction, Gamble says consumer awareness of fire hazards from laptops and other electronics needs to be heightened.

To be safe, the BCCS makes these suggestions: use a table or a hard surface, ensure air flow is not impeded around electronic devices when in use, shut down a laptop when not being used, especially when placed in a carry bag, inspect and clean air vents weekly, and replace malfunctioning equipment or parts according to manufacturer specifications.

If it were up to him, Gamble would rename laptops. "Beyond the fire issue, it's not ergonomic and you should keep the computer away from your reproductive organs."

Rosie Lombardi is a writer in Toronto.

## Message to fishers: better catch on to safety

By Angela Stelmakowich & Jean Lian

The safety message was recently being highlighted as fishers across the South Shore and southwest Nova Scotia prepared to take to the water for lobster season, which started November 30.

"Fishing is one of the most dangerous occupations in the province, but that can change if workers and employers take action to prevent injuries," Stuart MacLean, vice-president of service delivery for Nova Scotia's Workers' Compensation Board (WCB), says in a statement.

In 2008, the fishing sector saw almost 10 deaths and more than 400 injuries, including about 170 involving lost time. Premiums paid by industry employers are among the highest in Nova Scotia, with the 2010 rate being \$7.55 per \$100 of payroll, up from \$7.48 in 2009. All fishing sectors are well above the WCB's average assessment rate of \$2.65 per \$100 of payroll — a result of the number and severity of injuries.

In a bid to bolster safety, Nova Scotia has become just the second province in the country to form a sector-specific safety entity, the Fisheries Safety Association of Nova Scotia (FSANS). "By working together we can more effectively promote safe work practices and the business case for safety," Lisa Anderson, executive director of the Nova Scotia Fisheries Sector Council (NSFSC) in Yarmouth, says in the WCB statement.

MacLean points to advances made by safety associations in the forestry and construction industries. For example, the NSFSC reports that the forestry sector has been able to reduce its assessment rates by 40 per cent in the last five years, but more important, MacLean emphasizes, has also seen a decrease in "the number of

people that are being hurt on the job."

Housed under the NSFSC, the FSANS was set to get up and running January 1. The association — which MacLean regards as a vehicle to bring a "united voice to the sector on occupational health and safety issues" — has members from the harvesting, seafood processing and aquaculture sectors.

Brian Muise, executive director for the Aquaculture Association of Nova Scotia in Halifax, says the move will "have some real benefit in terms of avoiding employee down time and [a] decrease in our workers' compensation costs."

Angela Stelmakowich is editor of OHS CANADA; Jean Lian is assistant editor of OHS CANADA.

## Chemicals can compound potential for hearing loss

By Trisha Richards

It's not a stretch to say most people understand that exposure to excessive noise can damage hearing, but do they know chemicals can cause or exacerbate hearing loss?

Hearing loss from exposure to ototoxic chemicals occurs mainly through inhalation, where studies on experimental animals have shown that substances reach the inner ear through the bloodstream, causing damage to the nerves and other structures in the auditory system, explains Thais Morata, Ph.D., an audiologist at the National Institute for Occupational Safety and Health (NIOSH) in the United States. These chemicals can also be absorbed through the skin, Dr. Morata says.

Solvents are a common form of ototoxicant and can be found in paints, paint thinners, degreasers, adhesives, inks, glues, and enamels. And there's no shortage of these.

For example, a variety of workers can be exposed to toluene, what Dr. Morata calls "one of the 50 most commonly produced industrial chemicals." This can occur during the production, handling and use of toluene or toluene-containing products by chemical laboratory workers, gasoline blenders, lacquer workers, paint and paint thinner makers, petrochemical workers, painters and printers.

Styrene, a more potent but less common ototoxicant than toluene, for its part, is used in manufacturing synthetic rubber and fibreglass-reinforced polyester products, and can be found in floor waxes, polishes, paints, adhesives, metal cleaners and varnishes, Dr. Morata says.

She points out, though, that "environmental or occupational contaminants, the onset site, mechanism and extent of ototoxic damage of these toxicants vary according to risk factors that include type of chemical, interactions, exposure level and duration of administration."

In some cases, a substance will not cause hearing loss on its own, but can exacerbate noise-related loss through a process called potentiation. This synergistic interaction between an ototoxic chemical and noise gives rise to a "combined biological effect of two hazards [which]



is greater than the simple summation of the toxicity of each of the individual substances," Dr. Morata explains.

At particular risk for this synergistic effect are welders, suggests Susan Ing, an occupational hygiene specialist with the Industrial Accident Prevention Association in Mississauga, Ontario. "They're not only sucking in the welding fumes. They also have the high noise that is usually associated with welding," Ing says.

But persistent warnings related to occupational hearing loss, at least in some cases, are falling on deaf ears. "You don't find too many old tin bangers that can hear, but that just goes along with the trade," says Mark Curtis, business manager and financial secretary for Local 276 of the Sheet Metal Workers in Victoria. "As far as the chemical portion of it, I would say awareness is limited," Curtis says.

Ing concurs. "We're dealing with chemical exposure that most people really don't understand that much, and now we add on the synergistic effects of both chemical and noise."

A best practice is to stay below 50 per cent of permissible exposure limits of the jurisdiction in question, says Ing. "But if you're combining chemicals with a lot of noise, bring it down further. Knock off another 25 per cent."

Noise is such an important risk factor "it probably has delayed the recognition of the risk to hearing that these chemicals can pose," Dr. Morata says. Avoiding noise and chemical exposure remains the best preventive measure, she adds.

Trisha Richards is a writer in Toronto.

## New test now a must for police recruits

By Jason Contant

A new physical test is now required for recruits looking to be accepted by any policing agency in Alberta.

As of January 1, applicants must successfully complete the Alberta Physical Readiness Evaluation for Police Officers (A-PREP) program, notes a statement from the Edmonton Police Service (EPS). Developed with input from the policing, fitness and legal communities, the EPS calls the program an "unbiased and valid occupational requirement for policing based on a comprehensive scientific process."

The test — replacing the Physical Abilities Requirement Evaluation formerly used in Alberta — consists of a screening questionnaire, a pursuit/restraint circuit and an aerobic shuttle run. Testing was to be available in Calgary, Edmonton, Lethbridge and Medicine Hat early in 2010.

In designing A-PREP, officials carried out a job demands analysis to measure "the physical demands these individuals do every day," says Merle Fuller, executive director of the Alberta Association of Chiefs of Police. This could include running over and around obstacles,

climbing stairs, wrestling and struggling with suspects, dealing with those resisting arrest or rescuing people from buildings, Fuller reports.

"What are the jobs they do physically? How many times a day? How many times a month? What are the weight loads? How much energy does it take to do these?" he asks. "The best way to assess their readiness for the job is to develop a simulation test that simulates exactly those duties."

EPS police chief Mike Boyd says he is "confident A-PREP-certified candidates [will] have the physical ability and stamina to effectively perform their jobs."

## How to avoid the risk of walls crumbling down

By John Evans

Most people who do excavation work are well-aware of the associated hazards, namely the potential for walls to come down.

It was a lesson reinforced last summer in Calgary, where a 24-year-old construction worker was buried up to his chest, escaping thanks only to the efforts of fellow employees and emergency responders.

The Calgary Fire Department (CFD) received a call for assistance at about 2:30 pm on August 26. An employee of Slimdor Contracting Ltd. was trapped in a three-metre-deep trench at a Walmart location in the city's south end.

Frantic work to avoid having rescue turn to recovery began while emergency workers were en route to the site, says Kevin Rodda, an occupational health and safety compliance officer with Alberta Employment and Immigration (AEI) in Calgary. The co-workers "jumped right in onto the sideslip of material and dug him out right to his upper thighs."

Firefighters arrived and completed retrieval of the worker who, while conscious and alert, complained of chest pain, notes a CFD statement. "Firefighters set up an aerial ladder to remove the man from the trench, but later changed to a haul system utilizing ropes, a stretcher and manpower." The worker was removed, treated and transported to hospital.

Rodda reports the construction crew was repositioning a trench box with the aid of an excavator, which was connected to the box by a cable sling. The worker was "in the trench box to guide it in order to avoid some pipes," he says, but then stepped outside for some reason. When he did so, he was exposed to the collapsing trench wall.

The soil involved was unstable sand and gravel, Rodda says. No one should be in the trench when a box is being repositioned, he emphasizes. "The box could have been guided more safely and precisely with a tag line on the outside of the box."

Doug McVittie, the assistant general manager and director of operations for the Construction Safety Association of Ontario in Toronto, describes the crushing power of a collapsing excavation wall. "We're talking hundreds and hundreds of

