OSHA targets ergonomics controls on industry

By MARK LESLIE
WASHINGTON, D.C. — Arguing that ergonomics is the solution, not the problem, the Occupational Safety and Health Administration (OSHA) ergonomics coordinator defended the agency’s work to define guidelines for the workplace.

“Our Congressional mandate is to prevent injury and illness in the workplace,” said Nancy Adams. “The way the debate gets framed, ergonomics is the problem. But it’s not. It’s an intervention strategy to prevent the injury from happening, by good engineering, good process design, fitting the job to the worker and not the worker to the job. You can’t do that as one-size-fits-all.”

OSHA’s push into the realm of ergonomics is not new. The first ergonomist joined the agency in 1979, and talks with labor, trade associations and professional organizations began in the early 1980s. But the business and industry communities got concerned when, in 1992, an “Advance Notice of Proposed Rulemaking” targeted such items as:

- Lifting or carrying anything weighing 25 pounds without assistance more than once during a workshift.
- Using vibrating tools, which would include weed-eaters, for more than two hours.
- Working in awkward positions (such as kneeling, stooping or squatting) for more than two hours.
- Performing the same motions every few seconds.

“That’s called labor,” quipped one superintendent regarding the 25-pound limit. “The standard weight [for bags for various products] is 50 and 80 pounds.”

Various other chores on a golf course maintenance crew...
Of 906 database entries for surface water, nitrate was found in 706 instances at an average concentration of 0.5 ppm.

Further, in ground-water monitoring for pesticides, Cohen said researchers found 160 detections in 12,214 data entries. The typical detection limit, he said, is 1 part per billion (ppb), while some detection limits were at 1/10th ppb. Nine of the detections exceeded HALs or MCLs.

"We have wells next to tees. We have tests from drains under greens. These are not drinking-water wells in bedrock," Cohen pointed out.

Surface-water monitoring discovered that in 2,731 entries, pesticide levels exceeded MCLs or HALs five times, or 0.02 percent. Nineteen of the entries (0.7 percent) exceeded aquatic MACs (Maximum Allowable Concentrations for aquatic organisms).

The average concentration was 0.07 to 6.8 ppb, Cohen said, depending on how non-detections were counted.

Saying the current study is based mostly on worst-case locations for wells and other test areas, he said, "One could infer that similar golf course studies would indicate a significantly reduced impact relative to agriculture."

Citing the need for studies in the mid-continent and other areas, because of "major geographic deficiencies" in previous research, Cohen said, "It would be appropriate for others besides the golf industry to step up to the table, perhaps working jointly with the EPA [Environmental Protection Agency] and/or pesticide manufacturers on studies."

Despite geographic data gaps, some conclusions are apparent after reviewing the 16,700 database entries from the 38 golf courses in his study, Cohen said.

The concentrations of nitrate in ground water were surprisingly low — lower than what is typically seen in intensive agricultural areas, he said. Nitrate concentrations in surface water were also low. Pesticide detection rates and concentrations in surface water were somewhat lower than expected.

The federal standard for Maximum Calculation Level (MCL) or Health Advisory Level (HAL) of nitrate is 10 parts per million (ppm). The HAL is the upper concentration a person could drink in water for a lifetime without suffering any harmful effects. Levels slightly above 10 ppm might or might not be harmful.

Testing of wells, drains and lysimeters at 72 locations showed an average concentration of 1.6 ppm of nitrate in the ground water. Thirty of 849 data entries exceeded 10 ppm, but all but one of those were at a new golf course situated on former farmland.

Indeed, a source of optimism is that the monitoring wells in the golf course studies were usually shallow and next to treated turf, whereas agricultural studies have usually focused on drinking-water wells that are deeper and farther away from treatment areas.

The results are actually favorable for [golf courses] when one considers that fact," Cohen said.

Cohen recommended to the GCSAA Research Committee that an updated study be done in a year or two. "We learned there are many studies just beginning, or not yet finished," he said. "We think our research actually catalyzed interest in doing studies. We got several calls from golf course superintendents wanting information so they could perform research."

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