

RISK ASSESSMENT

Regulators Seek to Redefine 'Working Life'

Figuring out if millions of American workers are at risk from on-the-job exposure to hazardous chemicals has long been a thorny scientific problem. Last week, it became a prickly political issue too. Two senior Democrats in Congress demanded that the Bush Administration kill a proposal to change how the Department of Labor conducts the risk assessments that underpin worker safety regulations. Senator Edward Kennedy (D-MA) and Representative George Miller (D-CA), who lead Congress's labor committees, charged that a leaked draft of the proposal shows that the Administration is rushing to "slip through a rule that may have profound negative impacts on worker safety" before leaving office in January.

Labor Department officials reject the charge, saying that the changes they're proposing—including one that could reduce a worker's estimated exposure to dangerous substances—are designed to make risk assessments more "consistent, reliable, and transparent." And they say that if the new guidelines move forward, there will be plenty of time to hash out scientific issues.

Critics are skeptical. "There certainly could be an interesting and worthwhile debate about the technical assumptions that go into risk assessment, but you don't do that by shoving new guidelines out at the last minute," says David Michaels, an epidemiol-

ogist and worker safety advocate at George Washington University in Washington, D.C.

The Administration had not publicly released the proposal as *Science* went to press. But the draft leaked to *The Washington Post* calls for several changes in how two agencies, the Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health Administration, approach risk assessments. One is bureaucratic: It would require the agencies to do more to notify the public—a move critics claim is designed to entangle new rules in red tape.

Another more controversial section calls for altering how regulators calculate a key risk measure called "working life." Currently, in most cases the agencies assume that a person works for 45 years (from age 20 to 65) and use that span to calculate potential total exposure to hazardous substances. From that, they estimate how many workers might get sick or die.

But that approach likely overstates risks, the draft says, because few workers stay in the same job for 45 years. To back that view, it includes statistics showing that less than 5% of American workers stay with the same employer for even 35 years. "Thus, the actual exposure of the overwhelming majority of workers will likely be substantially less" than current methods estimate, according to the proposal. Instead, it calls for basing assessments on studies of how long workers actu-

ally work each day, and how long they stay in the same industry.

That may not be a bad idea—but it's not good enough to dump the 45-year assumption, says Adam Finkel, a former OSHA regulator who now teaches at the University of Medicine and Dentistry of New Jersey in Piscataway. For one thing, regulators often don't have the time or money to collect such detailed information—if it actually exists, he says. And just because workers change jobs doesn't necessarily mean that their exposure risks go down, he adds. "Sandblasters who report a change of employer very often remain sandblasters, and are unlikely to become stockbrokers," he wrote in a 2002 paper in the journal *Human and Ecological Risk Assessment*. Finally, he says regulators will always need some yardstick for comparing risks. "The EPA [Environmental Protection Agency] uses 70 years," he notes, "and while you can argue whether 45 years is the right number, it's not a bad one if you want to err on the side of safety."

The proposal also fails to make transparent exactly what "cookbook" the government will follow in developing the assumptions that go into every risk assessment, says toxicologist Joseph Rodricks, head of health sciences at ENVIRON, an Arlington, Virginia-based consulting firm. "To do this correctly, you'd need to lay out all the science and then say how you are going to navigate the maze," he says. "This doesn't."

Even if the new risk rules are adopted, experts point out that they won't be the last word on worker safety regulations. Historically, they say OSHA has loosened the exposure limits suggested by risk assessments if the government decides industry can't afford to meet them or the technology doesn't exist. Finkel says "that's exactly what happened" in developing the only major new workplace rule written by the Bush Administration, which limits exposure to the carcinogen hexavalent chromium produced by welding, electroplating, and other industrial processes. "They looked at the risk assessment number," he says, "and then pretty much ignored it."

—DAVID MALAKOFF

David Malakoff is a science writer living in Alexandria, Virginia.



Sparks fly. Before leaving office, the Bush Administration wants to change rules for calculating exposure to chemicals in the workplace, a key factor in risk calculations that underlie health regulations.

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