

Rachel's Environment & Health News

#519 - Ethical Hazards of Risk Assessment

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Not long ago, a state environmental official wrote us a thoughtful letter about risk assessment:

"Recently I attended a public meeting as part of the process of revising numeric criteria for 41 carcinogens and other toxicants that bioaccumulate in fish consumed by humans.

"The [state environmental agency] and the EPA [U.S. Environmental Protection Agency] would be satisfied if we could derive the concentration in water of each contaminant that would result in a risk level not greater than one-in-a-million to humans consuming fish, and then sanctify that number in administrative rule.

"It occurred to me that we are missing the point. We are in essence granting rights to chemicals, and chemical dischargers, and denying them to people. The human population is not granted, for example, a guarantee that there will not be more than an additional one in 10,000 cancers in the population due to exposure to all xenobiotics [toxic chemicals made by humans]. But chemical dischargers are given a guarantee for each chemical of a defined allowable risk level they can impose on the human population.

"We seem to have it backwards. Instead of defining a societally acceptable risk to humans from ingesting contaminants, and then apportioning allowable risk to each contaminant and discharger, we grant each chemical a risk level, and do not even make the effort of calculating the cumulative risk of all chemicals to humans. If the latter is impossible, it is an argument for zero discharge industries.

"Very few at the meeting were even aware that we were not talking one-in-a-million risk level in any case, but 41-in-a-million, considering all 41 contaminants in question.

"As well, industry argued for separating estuarine from marine criteria, which would grant each chemical a two-in-a-million risk level. Why not get really ridiculous and do it by fish species --one-in-a-million risk level to humans from consuming each of the following: cod, flounder, bass... [Furthermore,] the allowable contaminant level we grant each chemical is not 'global.' As I understand it, the EPA would allow an additional risk level for these chemicals from meat consumption, for example.

"Other obvious flaws in our risk assessment are that: we in [our state] and in many other states do not even regulate most of the 126 EPA priority pollutants, let alone the 70,000 chemicals in use by industry;

"It is probable that in some cases we are using insensitive endpoints, for example widespread immune system damage may occur at lower contaminant concentrations than those which produce significant numbers of cancers;

"We ignore synergism [increased toxicity caused by multiplier effects when two or more chemicals interact];

"We aren't necessarily taking into account sensitive human sub-populations (immune depressed, or fetuses).

"What bothers me is the mismatch between the two ends of the risk spectrum. At one end we have the guaranteed risk level granted to chemicals of between one-in-100,000 and one-in-10-million; at the other end we seem to have real increases in human health deterioration, breast and testicular cancer, ADHD [attention deficit hyperactivity disorder], and reduced sperm production, of tens of percents. How do we get from one-in-a-million to tens of percents, and which end of the spectrum should we offer a guaranteed risk level?...

"Another thought: industry, in criticizing our methodology for developing new and possibly more stringent criteria, piled one difficult-to-address concern after another on us. Of course if

industry were footing the bill for the studies necessary to address these concerns, perhaps they wouldn't have been as vocal. Reverse onus..."

This state official --who obviously might lose his/her job if we revealed his/her name (which, if you think about it, speaks sad volumes about free speech in America) --was commenting on the ethical dilemma of every risk assessor, which is this: assessing risks is a natural and inevitable step for humans to take (we all do a risk assessment before we dash across the street hoping to avoid getting hit by a car). But risk assessment is now embedded in our environmental laws at the federal and state levels in a way that guarantees that the "rights" of industrial poisoners will be protected by the apparatus of the state while citizens will be first disempowered and then physically harmed by the risk assessors' work. Risk assessors are now in the position of the conductors and engineers who kept the trains running on time to the death camps in Nazi Germany to minimize discomfort to their passengers --they are just doing a job, honorably and to the best of their ability, but the final result of every professional risk assessor's work is the destruction of the natural environment, one decision at a time, and the relentless spread of sickness throughout the human and wildlife populations.

The only way to restore an ethical basis to risk assessment is to embed it in a very different framework for decision-making. Right now risk assessment is used to answer the following sort of question: "How much of these 41 carcinogens can we give industry the 'right' to dump into public waters without killing an unacceptable number of citizens?" Anyone who helps the state answer such an immoral question is essentially keeping the death camp trains running on time. An ethical decision-making process would ask a very different question: How can society's resources be employed to minimize the use of chemicals known or suspected of causing harm to humans and the environment? Within a decision-making framework set up to answer THAT public policy question, risk assessors could honorably use their skills, talents, and knowledge to help society examine various alternatives. Until then, risk assessment will continue to be a raw political tool of the industrial powers-that-be, a means for 'managing' (manipulating) the anger, fear, and frustration of a citizenry that knows it is being poisoned.

The raw political nature of formal risk assessment is being demonstrated now in California, where Governor Pete Wilson's administration has ordered state risk assessors to destroy research data and internal records that fail to reflect the state's final policy decisions on pesticides, toxic wastes, and industrial-plant emissions. A memo issued by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment asks employees to cull files to ensure that they contain only materials that reflect management findings.

"Please dispose of all documents... [electronic-mail] messages and other communications prepared during the course of policy formulation which contain other policy proposals not adopted or reflected in the final decision," Charles Shulock, the office's chief deputy director, wrote on April 19, 1996. The memo was obtained by the WALL STREET JOURNAL.[1]

Mr. Shulock's memo argues that the new "records retention policy" will protect sensitive "pre-decisional" deliberations and will thus promote "robust internal discussions." But the state's scientific staff sees it differently: "It's ridiculous and isn't sincere. If they are concerned about free flow [of information], they would not conceive of shredding very important scientific evaluations," says Kristen Haynie, a spokesperson for the California Association of Professional Scientists, a labor union.

One of California's nationally-known pesticide risk assessors, Robert Howd,[2] said, "The state has hired us and pays us as experts to exercise scientific judgment. Controlling the right of

scientists to decide what will be useful later would attack our professionalism, our honor and the scientific process itself."

What Mr. Howd seems not to recognize is that the formal risk assessment process, as it is typically practiced for decision-making in the U.S. today, is not about honor or professionalism or science. Baldly put, it is about making political decisions, the aim of which MUST BE to accommodate the industrial polluters who provide the mountains of cash necessary for politicians to gain re-election and retain their power. If one-in-a-million, or 41-in-a-million, or several percent of, citizens are hurt in the process, so be it. (Until we get full public financing of elections --to get the corrupting power of private money out of our elections --this political dynamic will continue to dominate decision-making, and risk assessment will only be able to be conducted within this framework.)

Case in point: Robert Holtzer, a medical doctor and biochemist, says he was told to ignore evidence that pesticides are causing cancer and asthma among residents of Lompoc, California. Dr. Holtzer says preliminary research by his agency suggested a higher-than-normal incidence of lung and bronchial cancers, and an increase in respiratory illnesses, among residents of Lompoc Valley. He says further study is needed. "Despite the fact that this looks like something, I was told to ignore it --don't study it, don't talk about it," says Holtzer, who retired recently from the California EPA's Office of Environmental Health Hazard Assessment.[3]

Dr. Holtzer says, and his former supervisor confirms, that his office was formally ordered to stop studying diseases in Lompoc. For years, residents of Lompoc have been complaining that pesticides sprayed on nearby fields of lettuce, broccoli and flowers have been making them sick with flu-like symptoms.

In June Dr. Holtzer's former supervisor, David Siegel, wrote a draft report on the Lompoc situation in which he concluded that the data "did not provide findings of increased illness in the Lompoc area." Dr. Holtzer and two of his colleagues who collected the data in Lompoc -- epidemiologist Richard Ames and toxicologist Joy Ann Wisniewski -- refused to sign their names to Mr. Siegel's draft report. "We asked that our names not be associated with the report," Dr. Holtzer said. Drs. Ames and Wisniewski wouldn't comment for the record, thus silently speaking volumes about the limits of free speech in late 20th century America.

The manipulation of risk assessments in California for political purposes is not unique or even unusual. Risk assessment, when it is embedded within a decision-making process specifically aimed at determining how much damage is 'acceptable' and specifically NOT aimed at finding least-harmful solutions, is by its very nature a clandestine political manipulation of the citizenry. What's unusual in California is that the unethical political manipulation is so obvious and so well documented that even the WALL STREET JOURNAL finds it noteworthy.

--Peter Montague (National Writers Union, UAW Local 1981/AFL-CIO)

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[1] Mark Lifsher, "Technology & Health--California EPA Stirs Anger by Ordering Disposal of Data Disputing Its Findings," WALL STREET JOURNAL October 1, 1996, pg. B5.

[2] See, for example, Anna Fan, Robert Howd, and Brian Davis, "Risk Assessment of Environmental Chemicals," ANNUAL REVIEW OF PHARMACOLOGY Vol. 35 (1995), pgs. 341-368.

[3] Mark Lifsher, "California Journal: Cal-EPA Scientists Complain Pesticide Data Were Buried," WALL STREET JOURNAL [California Supplement] October 2, 1996, pg. CA1.

Descriptor terms: risk assessment; fish; wildlife; ethics; regulation; alternatives assessment; pete wilson; robert holtzer; cal epa; office of environmental health hazard assessment; lompoc; ca; cancer; asthma; pesticides; david siegel; whistle blowers; wall street journal; water pollution;