

SMOKING GUNS AND HIRED GUNS IN INCINERATOR RISK ASSESSMENTS. PART 1. When citizens raise enough noise about the health and environmental threats posed by a proposed incinerator (trash, hazardous or hospital waste) the proponents frequently seek to mollify their concerns by commissioning a health risk assessment. In an ideal world this would take the form of an objective analysis performed by independent experts using the best available data and assumptions about the potential human exposure to pollutants from the facility. In the real world, however, the proponents have invested so much time and money into the project that they usually cannot afford to take such a gamble with real science and instead find a firm of consultants who can "prove that the facility is safe (i.e., poses an acceptable risk)." In other words, what the public frequently gets is, not an "objective analysis", but, rather, an "advocacy document" - a document which selects and manipulates the data to reach a desired conclusion. The desired conclusion is usually a lifetime incremental cancer risk ranging from one in a million to ten in a million, depending on which regulatory agency is ruling on the matter.

The two quotes below illustrate the suspicions people have about this process. The first quote is from a Californian health official commenting on the changes made between two drafts of a risk assessment prepared by **Radian Corporation** for the proposed Stanislaus County (**Ogden Martin**) incinerator, now operating:

"...the consultants decided to change their formulas for calculating exposure via inhalation, crop consumption, fish consumption, and dairy and meat consumption. Although DHS staff found no basic scientific faults with the assumptions used in the revised assessment, the fact that the formulas were changed is disturbing because it implies that an effort was made to reach a 'target' number instead of conducting an unbiased risk assessment."

Lipsett, M. (Chief Air Toxics Unit, Epidemiological Section, California Department of Health Sciences). Letter to Public Health Officer, Stanislaus County, Department of Public Health, Aug. 14, 1986.

The second quote is from an independent reviewer (Bernd Franke of the German-based Institute of Energy and Environmental Research) who compared the health risk analyses performed for eight trash incinerators proposed for Long Island. He found that even though the number of pollutants considered, the emissions levels, exposure levels and other assumptions varied significantly among the eight studies, the resultant risk calculations varied only by a factor of **0.75**. Regardless of the size, technology, design, and siting of the incinerator, the estimated risks in each case were in the range of 1-2 extra cases of cancer per million. Franke states:

"It is therefore concluded that the selection of data and the parameters for health risk assessments of the municipal waste incinerators on Long Island was derived by quite an arbitrary process, subject to the respective consultant's preference. As a working hypothesis, it cannot be excluded that factors are being chosen in such a way that the resulting cancer risk estimate is close to the often so-called 'acceptable' risk of 10-6 (one case per million)."

Franke, B., "Review of the Environmental Impacts of the Solid Waste Incinerators Proposed for Long Island and New York City", prepared for Newsday, Melville, NY 11747. Institute for Energy and Environmental Research, 6935 Laurel Ave., Takoma Park, MD 20912. [see **Waste Not #4**].

These kind of suspicions are shared by many people who have studied the health risk assessments performed for incinerators. However, going beyond suspicion to actual proof is not an easy matter. Needless to say when consultants are questioned on the matter they claim that they meet the highest professional standards and that it is just a coincidence that their numbers meet regulatory demands with such uncanny frequency! It is also a coincidence that when they make mistakes in their calculations, that the "mistakes" always seem to be in the direction of **lowering** the calculated risk number! Tom Webster and Paul Connett have spent several years pursuing these "mistakes" in risk assessments for incinerators and have summarized some of their findings in a paper entitled **"Municipal Waste Incineration and Risk Analyses: The Need to Ask Larger Questions."** (This 15-page paper is available to **Waste Not** readers for \$2.50).

Meanwhile, **Waste Not** has in its possession a document which looks remarkably like the "smoking gun" in this matter. This takes the form of a draft copy of a health risk assessment prepared for the St. Lawrence County, NY trash (**Harbert-Triga**) incinerator in which a lawyer (Richard M. Cogen of the firm **Nixon, Hargrave, Devans and Doyle**) has written some rather explicit comments about the calculations in the margins of the paper. In his overall comment (see xerox copy below) he writes:

"Overall comment - The risk #'s still come out too high - especially the 10^{-4} for infants*. The DOH** opened the door to getting the numbers lower in a comment that, as best I can tell, is not being responded to here. Why haven't we taken the opportunity? Can we validly say that we have made our best attempt to (word missing) lowest poss risk numbers within the bounds of conservatism and defensibility."

Sept. 15, 1988, letter from Richard M. Cogen to Mitchell Wurmbrand, **Environmental Risk Ltd.**, Bloomfield, CT.

* This refers to Quantitative Worst-Case Estimates of Incremental Lifetime Cancer Risks to Reference Infants at the Point of Maximum Impact from the Planned St. Lawrence County Resource Recovery Facility for ingestion of dioxins and furans.

** The DOH refers to the New York State Department of Health.

There seems to be little doubt that the lawyer here is trying to influence the process to achieve a better "target" number. The word that is particularly revealing is the word

"still". The use of this word would suggest that this is not the first effort to get the risk numbers lowered. The consultant (**Robert Michaels of RAMTRAC Corp.**) claims that this request from the lawyer did not influence his calculations, but as "coincidence" would have it, in the final version of the risk assessment, the risk number in question was lowered from 1.15×10^{-4} to 1.46×10^{-5} ! or from 115 infant deaths per million to 14.6 infant deaths per million.

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Paul & Ellen Connett, Editors
82 Judson Street
Canton, New York 13617
(315)379-9200