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AGENDA FOR THE
BINGHAMTON STATE OFFICE BUILDING
EXPERT PANEL
MEETING AT BINGHAMTON CITY COUNCIL CHAMBERS

AUGUST 12

2:00	Welcome and Preview of Business of Meeting	Dr. Axelrod
2:15	Update of Health Surveillance Activities	
	a. Findings	Dr. Fitzgerald
	b. Possible effect of withdrawal of litigants from study	Dr. Fitzgerald
	c. Future plans	Expert Panel
3:15	Results of Environmental Studies	
	a. Tests 1, 2 & 3 from the September '84 protocol	Dr. Eadon & Versar
	b. Update of 90-day animal studies	Drs. Kaminsky & Caprio
	c. Discussion	Expert Panel
	d. Results of clinical data from medical surveillance program for clean-up workers	Versar
4:15	Sampling	
	a. Use of PCBs as surrogates for TCDF and TCDD	Versar & Dr. Eadon
	b. Plans for future building monitoring using surrogate PCB levels	Expert Panel
	c. Conditions of sampling-activity, temperature, etc.	Expert Panel
	d. Use of sentinel animals as bioaccumators	Drs. Kaminsky & Caprio
	e. Discussion	Expert Panel
6:00	Break for Dinner and Closed Meeting with Union Officials (Taylor Law proceedings)	Expert Panel
8:00	Return to Open Meeting	
8:20	Progress Report-Cleaning of Lower Levels of the BSOB	OGS
	Discussion of Sampling Protocols and Results	Expert Panel
9:00	Questions and Answers with the Public	
	Adjourn for evening	

AUGUST 13, AM

9:00	Risk Assessments		
	a.	Revisions to include PCBs and chlorinated benzenes	Drs. Kim & Hawley
	b.	Comparison of various approaches including EPA H_2O risk assessment method	Drs. Kim & Hawley
	c.	Combined respiratory and skin exposure limits	Drs. Kim & Hawley
	d.	Skin pick-up efficiency-wet vs. dry wipes considerations	Versar
	e.	Comparison with California re-entry levels	Dr. Miller
	f.	Concerns regarding risk assessment methodologies and metabolism of furans and dioxins	Dr. E. Silbergeld
	g.	Recommended re-entry values for permanent workers	Dr. Melius
11:00	Questions and Answers with the Public		

Adjourn, sine die.

BSOB EXPERT PANEL

John Buckley, Ph.D. P.O. Box 263 Whitney Point, NY 13863 WINTER: 836 Rabbit Road Sanibel, Florida 33957	Toxicologist
Renate D. Kimbrough, M.D. Medical Officer Center for Environmental Health Centers for Disease Control 1600 Clifton Road, NE Atlanta, Georgia 30333	Physician, toxicologist, epidemiologist
Clark W. Heath, Jr., M.D. Professor of Community Health Emory University, School of Public Health 1518 Clifton Road, NE Atlanta, Georgia 30332	Physician, environmental medicine, epidemiologist
Roy E. Albert, M.D. New York University Medical Center Institute of Environmental Medicine 550 First Avenue New York, NY 10016	Physician, environmental medicine
Ellen Silbergeld, Ph.D. Senior Scientist Toxic Chemicals Program Environmental Defense Fund 1525 18th Street, NW Washington, D.C. 20036	Toxicologist
Kathleen Gaffney, M.D. Commissioner, Broome County Health Department One Wall Street Binghamton, NY 13901	Physician, chemist, public health
Christopher Rappe, Ph.D. Department of Organic Chemistry University of UMEA S-901 87 UMEA, Sweden	Chemist
Arthur C. Upton, M.D. Professor and Chairman Department of Environmental Medicine New York University Medical Center 550 First Avenue New York, NY 10016	Physician, toxicologist

David L. Stalling, Ph.D. Chief of Chemistry U.S. Fish and Wildlife Service Columbia National Fisheries Research Lab Route 1 Columbia, Missouri 65201	Chemist, toxicologist
Alvin L. Young, Ph.D. Office of Environmental Medicine Veteran's Administration 810 Vermont Avenue, NW Washington, D.C. 20420 Office of Science and Technology Policy Executive Office of the President Washington DC 20506	Toxicologist, ~~epidemiologist~~ Environmental Scientist
Donald L. Grant, Ph.D. Pesticides Section Bureau of Chemical Safety Toxicological Division Health Protection Branch, HPB Bldg., Tunney's Pasture Ottawa, Ontario, Canada K1A 0L2	Chemist, toxicologist
James Melius, M.D. National Institute of Occupational Safety and Health Robert A. Taft Laboratories 4676 Columbia Parkway Cincinnati, Ohio 45226	Physician, occupational medicine
Douglas Harding, M.D. Senior Medical Consultant Ontario Ministry of Labor Special Studies and SErvices Branch 400 University Avenue, 8th floor Toronto, Ontario, Canada M5G 1S5	Physician, industrial medicine

BSOB TECHNICAL STAFF

Dr. Nancy Kim	NYS Department of Health
Dr. George Eadon	NYS Department of Health
Mr. Harry Stevens	NYS Office of General Services
Dr. Stephen Levin	PEF Representative
Dr. Terry L. Miller	CSEA Representative
Dr. John Buckley	Broome County
Mr. Robert Williams	City of Binghamton
Dr. Kathleen Gaffney	Broome County Health Department
Dr. Ellen Silbergeld	Citizen's Committee Representative

SCIENTIFIC ADVISORY PANEL

Binghamton, NY

Issues Guide for August 12-13 meeting on the State Office Building

HEALTH SURVEILLANCE

The most recent findings still show no difference between the study group and general population, in terms of disease rates. Panel will be asked to recommend future study course.

AIR TESTS

No dioxins or furans were detected outside the building during February venting.

Indoor contamination levels dropped from less than 11 pico grams per cubic meter in February to less than 4.1 pico grams per cubic meters after venting.

Earlier, the panel set 10 pico grams per cubic meter as the "target" for reoccupancy — not counting possible surface contamination.

SURFACE TESTS

Latest tests show varying levels of remaining contribution, less than in previous rounds of testing.

Panel must recommend how to evaluate surface contamination levels in combination with air test results.

RE-OCCUPANCY

A "bottom line" re-occupancy level is to be recommended by the panel, including both surface and air contamination.

Also, prospects for comparison tests with other state buildings, and possible use of lab animals as "sentinels" in the Binghamton building are to be discussed.

RISK ASSESSMENTS

Questions about risk assessment are up for discussion. These include comparisons between New York, California and U.S. EPA methods, and inclusion of PCBs in the basic Binghamton formula

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This paper was prepared by the Department of Health as a short-hand guide to the Scientific Panel discussion, outlining the major items and issues for discussion. It is not meant to be all-inclusive.

Average 2,3,7,8-TCDD Equivalents for 6th and 14th floor Air Samples

This column lists chemicals which belong to three different families - they are converted to 2,3,7,8 TCDD equivalents so we can add them up	Sept. 84	March 85
	picograms per cubic meter (pg/m^3)	
2,3,7,8 TCDF	2.7	1.1
2378, 12348, 23478-PeCDF	4.7	1.6
HEXA CDF	0.1	0.04
2,3,7,8 TCDD	< 0.7	< 0.4
12378-PeCDD	< 0.1	< 0.5
HEXA CDD	< 0.1	< 0.07
2367-Tetrachlorobiphenylene	1.3	< 0.2
12367-Pentachlorobiphenylene	< 1.3	< 0.2
TOTAL (< = less than)	< 11.0 pg/m^3	< 4.1 pg/m^3

Note: Detection limits were used, which vary from test to test. See "definition of terms" for a further explanation of this.

DEFINITION OF TERMS

picogram - one trillionth of a gram or $\frac{1}{1,000,000,000,000}$

nanogram - one billionth of a gram or $\frac{1}{1,000,000,000}$

meter - a unit of length measuring 39.37 inches

cubic meter - a meter multiplied by itself twice to form a unit of measurement for volume

square meter - a unit of surface measurement which has the form of a square

Air samples for the BSOB are measured in picograms per cubic meter (pg/m^3). The results of the air sample tests are listed in the above table.

Surface samples for the BSOB are measured in nanograms (or other fractions) per square meter (ng/m^2). The surface sample data had not been converted to 2,3,7,8 TCDD equivalents in the early release of the results, but the conversions will be available to the Expert Panel.

Detection Limits

A detection limit is the lowest point at which a chemical can be measured in air or on surfaces by specialized equipment (for example, most outdoor thermometers do not measure air temperatures below -40°F).

If you look through the data for the BSOB, you would see many "ND" notations - meaning that no chemical was detected. This can therefore be added in as zero.

Alternatively, a lab may set a number for the lowest point at which a chemical could be detected and factor that number into the total instead. This latter approach is more conservative, for you are assigning a higher value than what was actually found. This is the approach that the NYS Health Dept. Lab used, and thus arrived at a total of less than 4.1 picograms per cubic meter of air. Probably, the total is even less than that because values were assigned where no chemicals were detected.

Procedure for Contamination Measurement and Risk Assessment

To understand the underlying principles used to design the test plan for the BSOB, a review of some basic concepts and history might be useful. The fire in the BSOB resulted in a mixture of contaminants being spread throughout the building. Most of the contaminants are members of four families of chemical compounds: 1) polychlorinated biphenyls (PCB's), 2) polychlorinated dibenzo dioxins (PCDD's), 3) polychlorinated dibenzo furans (PCDF's), and 4) polychlorinated biphenylenes (PCBP's). The Department of Health and the Expert Panel have reviewed available information on the toxicity of these chemicals and have set maximum contamination levels that must not be exceeded if the building is to be rehabitated, using a procedure known as Risk Assessment. These levels are set on the basis of total health risk from all the contaminants combined and by all routes of exposure rather than trying to establish limits chemical by chemical and route by route. Since it is impossible to know before testing what the relative amounts of the various contaminants will be, the total risk approach is the most practical way to establish criteria for the cleanliness of air and surfaces in the building. Thus, test samples will be chemically analyzed for all of the contaminants of concern in the building and their toxicity will be summed by a method known as 2,3,7,8 TCDD equivalents. This equivalent serves as a kind of "common denominator" for all the contaminants present in the building.

2,3,7,8 TCDD (one of the family of PCDD's) is the most toxic of the contaminants found in the building. For example, it is considered three times as toxic (on the basis of equal exposure) as 2,3,7,8 TCDF (one of the family of PCDF's). In using 2,3,7,8 TCDD equivalents as a "yardstick," one can total the risk from the sum of toxic compounds present. And using the most toxic contaminant present as the yardstick yields the most conservative estimate of contamination. (In determining the toxicity of all chemicals found in the building, each chemical's toxicity is expressed in terms of how much 2,3,7,8 TCDD it is equivalent to, and all these numbers are added). For the building to meet the Expert Panel's criteria, the total dose for surface samples and for air samples combined must be less than the limits they set.

The criteria set by the Department of Health and suggested to the Expert Panel are based on not exceeding a maximum daily intake of two trillionths of a gram (2 picograms) of 2,3,7,8 TCDD equivalents for each kilogram--(2.2 pounds) of a person's body weight per day (2 pg/kg day). This limit is translated into limits for air and surface contamination by considering how much air a person breathes and how much surface dirt a person might get in their mouth or on their skin in a day at work.

From these values the calculations lead to a maximum acceptable air concentration of 10 picograms of 2,3,7,8 TCDD equivalents in a cubic meter of air or a maximum acceptable contaminant level on surfaces of 25 nanograms on a square meter of desk, wall or other surface. Obviously, if air levels are 10, surface levels will have to be zero and vice versa. The last test results show air levels to be less than 4.1 picograms of 2,3,7,8 TCDD equivalents per cubic meter. Surface levels have yet to be factored in.