NOV 16 1992

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 4 1992

THE ADMINISTRATOR

Admiral E. R. Zumwalt, Jr.
1500 Wilson Boulevard
Arlington, Virginia 22209

Dear Admiral Zumwalt:

Thank you for your letter of August 11, 1992, requesting an update on the Environmental Protection Agency's (EPA) scientific reassessment of dioxin and related compounds. EPA's Office of Research and Development (ORD) has recently completed several critical steps in the reassessment. I have enclosed a copy of a recent memorandum from Mr. Erich Bretthauer, Assistant Administrator for ORD, which provides a status report on these activities and a perspective on their outcome.

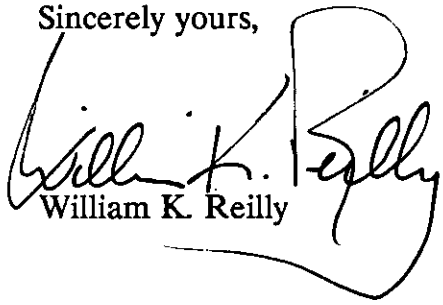
While the points made in the memorandum represent a synopsis of complex issues and extensive discussions, they should not be viewed as final conclusions on the risks of dioxin. As indicated in the memorandum, they are views of this group of panelists and represent their understanding of the current state of the science. These views may be modified as the Panel's summary report is developed over the next few weeks and may be tempered by further Agency and Science Advisory Board reviews of the available data. ORD will now focus its efforts on responding to the comments and suggestions received in this round of document development with a target to release an external review draft of the dioxin health assessment and the exposure document for public comment and SAB review early in the next calendar year.

The open and participatory nature of the process, which marks a significant departure from the way EPA has conducted risk characterization in the past, received strong support by all who participated in or who were observers to the process; and we remain on track with our reassessment efforts for these important and controversial

chemicals. Should you have any questions or comments regarding the process or substance of ORD's reassessment activities, please feel free to contact Mr. Bretthauer on (202) 260-7676 or Dr. William Farland, ORD's technical lead on this project on (202) 260-7315.

Again, thank you for your interest in these important activities.

Sincerely yours,



William K. Reilly

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT - 9 1992

OFFICE OF
RESEARCH AND DEVELOPMENT

MEMORANDUM

SUBJECT: Update on Dioxin Reassessment Activities

FROM: Erich W. Bretthauer
Assistant Administrator
for Research and Development (RD-672)

TO: The Administrator (A-100)

The Office of Research and Development (ORD) has recently completed several critical steps in its reassessment of dioxin and related compounds. I would like provide you with an overview/perspective on their outcome.

During August and September we achieved our goal of releasing draft versions of both the exposure document and the eight chapters which will eventually comprise the bulk of the overall health assessment for dioxin and related compounds. As planned, these documents were made available to two peer review panels and the interested public for review and comment.

The public peer panel meetings provided an excellent forum for discussion of the many complex issues related to dioxin. Over 70 members of the public participated in the exposure meeting which was held September 10-11, 1992, and more than 130 were present at the health effects meeting on September 22-25. Valuable comments were provided by both panelists and members of the scientific community representing both industry and environmental groups. All comments, were made constructively with a perception of participation in "works in process." Because some of the chapters were made available to the public only shortly before the meetings, the comment period was left open for an additional 30 day period. The comments will be summarized and used by our external and internal authors in document revision. All comments that we have received, as well as all the materials that the panels have prepared will become part of the public docket.

The highlight of these recent activities was the preliminary "risk characterization" discussions which occurred on September 24-25. Members of the

peer panel for the health chapters and the chair person for the exposure panel were asked to discuss and summarize their thoughts on key features of the state-of-the-science, assumptions, and uncertainties which ought to be captured in the Agency's overall risk characterization for dioxin and related compounds. In doing this, they considered the full range of responses seen in human and experimental animals, as well as the sources and levels of dioxin exposure in the general population and in some site-specific situations. A key part of this discussion was the potential for risks to the general population from background levels of this class of chemicals as well as the impacts of incremental exposures to more highly exposed populations or potentially sensitive subgroups. By the end of the meeting the panel members had developed written statements on key issues in risk characterization. These preliminary statements will be turned into a summary report and will be returned to the panel for review, revision, and sign-off. This panel report will then be taken into consideration in Agency efforts to develop a concluding risk characterization chapter for its health effects document.

My interpretation of some salient features of the discussion by the panel members is:

- Risk characterization should encompass the broad range of health effects attributable to dioxin exposure and not focus just on cancer;

- Certain non-cancer effects, including changes in endocrine function associated with reproductive function in animals and humans, behavioral effects in offspring of exposed animals, and changes in immune function in animals have been demonstrated. Some data suggest that these effects may be occurring in people at body burden levels that can result from exposures at, or near, current background.

- While recent epidemiology studies indicate that dioxin and related compounds may be carcinogenic in humans, a focused review of these studies by a panel of epidemiologists is required. The Agency should then reconsider its current classification of dioxin which is based primarily on the results of laboratory animal studies;

- Based on the key role of the Ah receptor in mediating toxic responses to dioxin and related compounds (other dioxins, furans and biphenyls) the full range of compounds which bind to this receptor should be considered in the risk characterization. Additional work will be required to better understand the impact of dioxin-like PCBs;

- Application of biologically based models to predict carcinogenic responses to dioxin and related compounds require additional data. Studies currently underway at NIEHS and EPA may provide the needed data during the next three to five months.

- The available data on early cellular responses are largely consistent with linearity of response at low doses, but the shape of the dose-response for cancer in the low dose region cannot be inferred with certainty; and

- Risks from the ubiquitous background levels of dioxin in the general population need to be carefully considered.

I want to highlight that the above points are our interpretation of the panel's discussions and should not be viewed as final conclusions on the risks of dioxin. These views may be modified as the Panel's summary report is completed over the next few weeks. ORD will now focus its efforts on setting up additional peer review of the epidemiology chapter and responding to the comments and suggestions received in this round of document development, and on working with the external authors to assure that the health chapters are completed in a timely manner. The risk characterization chapter will be developed concurrently.

The open and participatory nature of the process, which marks a significant departure from the way we have conducted risk assessments and prepared risk characterizations in the past, also received overwhelming support by all who participated in, or who observed, the process.

cc: H. Habicht, Deputy Administrator

get on that list

EPA's Scientific Reassessment of Dioxin

ON AC 7/22

AGENCY: U.S. Environmental Protection Agency (EPA)

ACTION: Notice of Upcoming Activities Regarding EPA's Reassessment of Dioxin

SUMMARY: The EPA has scheduled two peer-review workshops to be held in mid-September 1992 to review draft documents on exposure assessment procedures and health assessment issues related to its reassessment of dioxin. These draft documents, authored primarily by outside scientific experts, are, at this stage, very preliminary, developmental, and do not represent Agency policy. The draft documents are being made available in advance of the workshops as part of the Agency's continuing commitment to conduct the reassessment of dioxin in an open and participatory manner, to keep the public informed of its progress, and to encourage public participation in the document development process. The public is invited to attend the workshops, to present oral comments, and/or to submit written comments. Seating will be limited, and advance reservations are suggested. Information about attending the meetings and obtaining copies of the draft documents is provided elsewhere in this notice. After the workshops, external review drafts will be prepared by the Agency and will be released for public review and comment and review by the Agency's Science Advisory Board.

At the first workshop, scheduled for September 10 and 11, 1992, a panel of scientific experts from outside the Agency will review a draft document on procedures for assessing exposure to dioxin titled, **Estimating Exposures to Dioxin-Like Compounds (EPA/600/6-88/005B)**. Information about obtaining copies of this draft document is provided elsewhere in this Federal Register notice.

The second workshop, scheduled for September 22 through 25, 1992, will focus on a review of draft chapters that will ultimately be part of a full health assessment of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and related compounds. The peer-review panel, a group of scientific experts from outside the Agency, also will discuss and formulate points to be included in a risk characterization chapter, which will be further developed by the Agency following the workshop. Information about obtaining copies of these draft chapters is provided elsewhere in this Federal Register notice.

DATES: The peer-review workshop to review the draft document on procedures for assessing exposures to dioxin will be held September 10 and 11, 1992. Copies of the draft document will be available on or about August 10, 1992.

The peer-review workshop to review the draft health assessment chapters will be held September 22 through 25, 1992. Copies of the draft chapters will be available on or about August 24, 1992.

ADDRESSES: Eastern Research Group, Inc. (ERG), an EPA contractor, is providing logistical support for the peer-review workshops. Both meetings will be held at the Sheraton Premiere at Tysons Corner, 8861 Leesburg Pike, Tysons Corner, VA. For additional information, please contact Helen Murray, ERG, at (617) 674-7307 or fax (617) 674-2906. Further, members of the public wishing to present formal statements at either meeting should request a time when making their reservations. Time will be limited in order to give everyone an equal opportunity to speak. Individuals and organizations who are not assigned a time in advance of the workshops will be heard as time permits. In addition, during the meetings some time will be designated for questions and comments from the floor to encourage interactions among authors, peer-panel members, and the other meeting attendees.

Members of the public may also submit written comments and other materials relevant to the scientific reassessment of dioxin to: Eastern Research Group, Inc., 110 Hartwell Avenue, Lexington, MA 02173-3198, Attention: Helen Murray. Comments will be accepted up to 10 working days following each meeting. After that time, written comments should be directed to: Office of Health and Environmental Assessment (RD-689), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460, Attention: Dioxin Reassessment.

Members of the public wishing to make a reservation simply to attend one or both of the meetings may phone ERG at (617)

674-7270 to leave their name on ERG's automated registration system. The system is available 24 hours a day.

To obtain a copy of the draft exposure document or any of the draft health assessment chapters, interested parties should contact the ORD Publications Center, CERI-FRN, U.S. Environmental Protection Agency, 26 W. Martin Luther King Drive, Cincinnati, OH 45268; telephone (513) 569-7562; fax (513) 569-7566. Please provide your name, mailing address, and the appropriate document title and number from the list below.

Estimating Exposures to Dioxin-Like Compounds
EPA/600/6-88/005B

Health Assessment Chapters:

Chapter 1.	Disposition and Pharmacokinetics	EPA/600/AP-92/001a
Chapter 2.	Mechanisms of Toxic Actions	EPA/600/AP-92/001b
Chapter 3.	Acute, Subchronic, and Chronic Toxicity	EPA/600/AP-92/001c
Chapter 4.	Immunotoxic Effects	EPA/600/AP-92/001d
Chapter 5.	Reproductive and Developmental Toxicity	EPA/600/AP-92/001e
Chapter 6.	Carcinogenicity of TCDD in Animals	EPA/600/AP-92/001f
Chapter 7.	Epidemiology/Human Data	EPA/600/AP-92/001g
Chapter 8.	Dose-Response Relationships	EPA/600/AP-92/001h

Once available, the draft documents also will be provided for inspection at the ORD Public Information Shelf, EPA Headquarters Library, 401 M Street, S.W., Washington, DC 20460, between the hours of 8:30 a.m. and 4:30 p.m., Monday through Friday, except for Federal holidays, and at all of the EPA Regional and Laboratory libraries.

FOR FURTHER INFORMATION CONTACT:

For copies of documents: ORD Publications Center, CERI-FRN, Office of Research and Development, U.S. Environmental Protection Agency, 26 W. Martin Luther King Drive, Cincinnati, OH 45268; telephone (513) 569-7562; fax (513) 569-7566.

For questions on exposure: John Schaum, Exposure Assessment Group, Office of Health and Environmental Assessment (RD-689), Office of Research and Development, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460; telephone (202) 260-5988; fax (202) 260-1722.

For questions on the health assessment: William Farland, Office of Health and Environmental Assessment (RD-689), Office of Research and Development, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460; telephone (202) 260-7315; fax (202) 260-0393.

SUPPLEMENTARY INFORMATION:

In April 1991, EPA Administrator William Reilly announced that EPA would conduct a scientific reassessment of the risks

exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and chemically similar compounds collectively known as dioxin. The reassessment is part of the Administrator's goals of improving the research and science base of the Agency, and incorporating improved research and science into EPA decisions.

The EPA has undertaken this task in response to emerging scientific knowledge of the biological, human health, and environmental effects of dioxin. Significant advances have occurred in the scientific understanding of mechanisms of dioxin toxicity, of the carcinogenic and other adverse health effects of dioxin in people, of the pathways to human exposure, and of the toxic effects of dioxin to the environment.

The EPA is making this reassessment of dioxin an open and participatory effort. It has convened two public meetings (on November 15, 1991, and April 28, 1992) to inform the public of the Agency's plans and activities, to hear and receive public comments and reviews of the proposed plans for the reassessment, and receive any current, scientifically relevant information.

The scientific reassessment of dioxin consists of five activities:

1. Development of a biologically based dose-response model for dioxin.
2. Update and revision of the health assessment document for dioxin.
3. Laboratory research in support of the dose-response model.

4. Update and revision of the dioxin exposure assessment document.

5. Research to characterize ecological risks in aquatic ecosystems.

The first three activities will be combined as the reassessment activities result in a revised health assessment. The process for developing the health assessment document consists of three phases:

Phase 1 includes completing state-of-the-science chapters and a dose-response model for the health assessment document and conducting a peer review by a panel of experts. Drafts of the chapters, which ultimately will comprise the Agency's health assessment document for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and related compounds, have been completed, and the peer-review workshop is scheduled.

Phase 2, preparation of the risk characterization, will begin during the workshop. The peer-review panel will discuss and formulate points to be carried forward into the risk characterization. Following the workshop, a draft health assessment document will be assembled.

Phase 3 will involve review of the draft health assessment and exposure documents by the EPA's Science Advisory Board (SAB) and the public. These activities will be announced in the Federal Register at the appropriate time. Anticipated dates include public review and comment of the two draft documents in late 1992 and completion of Phase 3 in mid-1993.

The fourth activity has been completed. A draft exposure document titled, **Estimating Exposures to Dioxin-Like Compounds**, will be the subject of a separate peer-review workshop and additional reviews as outlined in the preceding paragraph.

The fifth activity is in progress. EPA's Environmental Research Laboratory in Duluth, Minnesota, is directing the efforts and conducting studies related to characterizing ecological risks in aquatic ecosystems from exposure to dioxins. Research efforts are focused on the study of organisms in aquatic food webs to identify the effects of dioxin exposure that are likely to result in significant population impacts. Both the study results and the risk characterization will undergo peer and SAB review in 1994. Ultimately, these data will support the development of aquatic life criteria which will aid in the implementation of the Clean Water Act.

August 7, 1992
Date

Erich W. Bretthauer
Assistant Administrator
for Research and Development

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

cc AVERILL
KEN SCHMIDBERG

OFFICE OF
RESEARCH AND DEVELOPMENT

DATE: July 31, 1992

NOTE TO: Attendees at Public Meeting on EPA's Scientific Reassessment of Dioxin

SUBJECT: Copy of EPA's Presentations

This is in response to your request for copies of EPA's presentations detailing EPA's Scientific Reassessment of Dioxin. On April 28, 1992 a second public meeting on EPA's Scientific Reassessment of Dioxin was held in the EPA Education Center Auditorium in Washington, DC. At the meeting EPA officials made presentations on the current status of EPA's scientific reassessment to include: Components of the Dioxin Reassessment; Update on Health Research in Support of the Dioxin Reassessment; Development of Dose-Response Models; Estimating Exposures to Dioxin-like Compounds; and Characterization of Toxicity and Risks of 2,3,7,8-TCDD and Related Chemicals in Aquatic Environments. Enclosed you will find copies of each of these presentations as they were presented at the public meeting.

I would like to point out a few changes in the schedule of the Dioxin Reassessment that have occurred since the presentation of Dr. William Farland entitled,"Components of the Dioxin Reassessment. " Beginning on page 24 of Dr. Farland's presentation there is a change in the dates for scientific peer review. The current schedule for scientific peer review meetings of the state-of-the-science chapters on dioxin toxicology and the dose/response model is September 22 - 25, 1992. In addition, the EPA methodology "Estimating Exposures to Dioxin-like Chemicals," will be scientifically peer reviewed on either September 8 - 9, or September 11 - 12, 1992. The dates, time and place of these public meetings and workshops will be announced in the Federal Register approximately 30 days in advance to these meetings. Both of these meetings will be open to the public. For more information on the scientific peer review panel meetings you may contact Ms Roxanne Settle of EPA's Office of Health and Environmental Assessment in Washington, DC at (202) 260-7315.

We apologize for the long delay in responding to your request, but we received an overwhelming number of requests for this information following the public meeting. Thank you for your interest in EPA's Scientific Reassessment of Dioxin.

David H. Cleverly
Office of Technology Transfer
and Regulatory Support