

Memorandum

AIR
PRODUCTS 

To: T. J. Marriott, Jr. Dept.: Corporate Safety
From: A. J. Diglio Dept./Ext.: Corporate Environmental
Date: 7 December 1987
Subject: Chemical Industry Institute of Technology (CIIT)

Tom:

CIIT was established as an independent, non-profit toxicology research institute. CIIT is respected by the Government and environmentalists and "keeps them honest" on matters of toxicology. For some time, Lloyd Tepper serves as a Board member of CIIT. Bob Sander and I concur with Lloyd's memo that CIIT provides a valuable cost-effective service for Air Products and the chemical industry. However, Bob thinks we could get more value from CIIT and other outside associations by dedicating more personnel time.

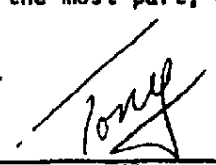
Air Products operates with a lean staff in all areas and particularly in environmental, health and safety. CIIT works on generic issues of major importance to the industry such as improving extrapolations from rodents to man, chemical-induced immunotoxicity and risk assessment models. We are dependent on outside services in these matters. Air Products has one toxicologist and no toxicology lab.

The Board of CIIT establishes a direction in which its generic research is oriented. We are represented on the Board by Lloyd Tepper, but he serves more as an industry representative. Because of the nature of CIIT, it would only marginally help Air Products to add more dedicated time unless we wish to specifically fund a project that is solely beneficial to Air Products.

Concerning our increased participation in other associations, it is a matter of balancing priorities and value. Those individuals who have functional involvement in our ongoing business best serve our interest and that of the trade associations.

I concur with Bob Sander that in order to provide more Air Products' participation in outside associations would require an increase in our personnel. In some associations, more dedicated Air Products' time would be marginally beneficial. In those outside situations where more participation would increase value to Air Products, the additional person planned for Corporate Environmental could help on a selected basis. There are times when Air Products does not directly benefit. For the most part, we have benefited more than we have contributed.

Please let me know if you wish anything else.


A. J. Diglio

AJD:pbr

0508v

Attachment: Your note of 23 November 1987 and other attachments

AP00036900

Tom Marriott
Corporate Safety and Environmental
(215) 481-8167

AIR
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NOV 23 1987

A. J. Diglio

23 November 1987

TO: A. J. Diglio
Corporate Environmental

Attached is some correspondence on CIIT.
This was passed on to me by P. L. T. Brian.

P. L. T. Brian asked me to give him
feedback on our continued involvement
with CIIT. To do so, I need your input.

Please look over the attached information
and then let's discuss by 4 December 1987.

Thanks.



T. J. Marriott, Jr.

TJM/ses
Attachment

AP00036901

*Review
with ATD*

Frank J. Ryan
Chemicals Administration
(215) 481-6889

AIR
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19 October 1987

TO: P. L. T. Brian

Thibaut,

Are we doing what Bob suggests? I
know we did in the past before a number
of people retired.

Frank

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OCT 19 1987

P.L.T. BRIAN

AP00036902

Memorandum

AIR
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To: F. J. Ryan Dept.: Chemicals Administration
From: R. C. Sander Dept./Ext.: Manufacturing Admin / 8510
Date: 14 October 1987
Subject: CIIT/DNT, etc.

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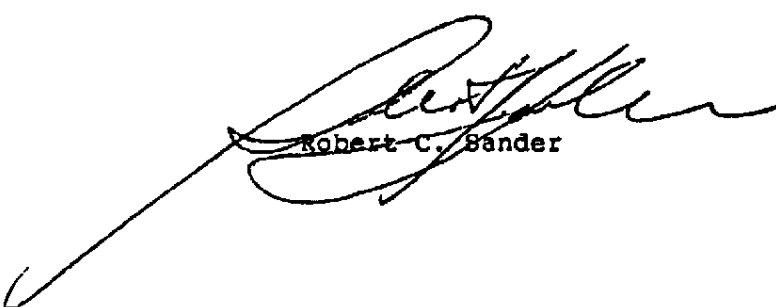
Bob,

Please discuss this with the 11 1987
F. J. RYAN

Frank, this is in response to your question about CIIT. This group can and does provide valuable information for us -- particularly in the nitrations area. I receive the periodic summaries of information and research results. I find them interesting and informative. However, like a lot of data and information that crosses one's desk, you tend to react to that which has a current impact.

I would support continued involvement in this group if we are prepared to commit the APCI personnel to make use of the information and have a continuous involvement in the programs, etc. that the CIIT develops and executes. We do not make the involvement in these outside groups an integral part of any one person's position. Rather, it tends to be an informal add-on that is pursued with varying degrees of intensity. As a result, we do not always consistently get full value from the money that we spend in these areas. If we want to really get value from these efforts, we should make them a part of someone's position requirements, recognize the time and expense that involvement entails and, most importantly, make it part of the position performance and recognition requirements.

RCS/BMcC
7203b


Robert C. Sander

AP00036903

Memorandum

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AIR
PRODUCTS ~~1~~

OCT 7 1987

To: DEXTER BAKER
From: BRIAN RUSHTON
Date: 2 OCTOBER 1987
Subject: REPORT OF MEETING AT C.I.I.T. - 1 OCTOBER 1987

Dept.: EXECUTIVE
Dept./Ext.: VICE PRESIDENT - R&D / R400

cc: Lloyd Tepper

Attached please find a list of attendees at the above-mentioned meeting.

I believe the meeting was satisfactory in as much as it helped to communicate to most of those present the general worth of C.I.I.T. Some of the more important points to emerge from the meeting are as follows:

- C.I.I.T. is generating basic science that is helping to form the basis for possibly toxic tort law reform.
- There is evidence that chemical corporations can be helped in the avoidance of law suits (see attached paper by Dr. Jack H. Dean).
- Bob Kennedy of Union Carbide stated that, on listening to the various messages of the day, he was persuaded that putting money into C.I.I.T. might have a more significant payback than capital programs of some universities.
- C.I.I.T. should put its message on film and aggressively promote itself - lobbying with the CMA would be the best recruitment vehicle for this.
- The member companies and non-member companies would do well to put more "sweat equity" into C.I.I.T. in order to promote it, gain more out of it, and help formulate the future direction. The size of an individual company donation does not determine its impact in this respect.
- Some of the value that member companies can derive are as follows:
 - consultation with C.I.I.T. toxicity experts,
 - effective execution of social responsibility,
 - possible avoidance of expensive legislation brought by irrational individuals or groups via use of data generation,
 - an understanding of the relationship between animal and human toxicology via mechanistic studies of major chemical moieties,
 - an easier time in defending themselves against critical toxic issues or broadly dealing with these problems because of the precedents now created by the excellent C.I.I.T. work on teraphthalic acid, formaldehyde, dichlorobenzene, gasoline, dinitrotoluene, etc.

AP00036904

2 OCTOBER 1987

AIR 1
PRODUCTS 1

12 October 1987

TO: R. C. Sander

Bob,

Let's discuss CIIT and DWT?? at
next one-on-one. Please come prepared
to give me your feelings.

Frank

... was supportive of C.I.I.T. However, most
to mount a renewed effort to get non-member
and sign up as dues-paying members. I
... to CMA members at large and try to
... that Dr. Lloyd Tepper had written
Products' positive experience
... by the attendees. It
... its of membership.

AP00036905

Keeping Up With **CIIT**

Summer, 1987

A periodic report on toxicological issues of importance to the Chemical Industry Institute of Toxicology. For more information about CIIT and its research programs, contact Wilanna Griffin, CIIT Information Services, P.O. Box 12137, Research Triangle Park, N.C. 27709 (919/541-2070).

Immune System Damage and the Courts

Jack H. Dean, Ph.D.

Department of Cellular and Molecular Toxicology

A recent rash of litigation against chemical companies has charged damage to the immune system following environmental exposure to chemicals. In the past two years, several companies have either lost or settled cases out-of-court in which the total judgment approached 40 million dollars. These cases (*Elam et al. v. Alcolac Inc.*; *Sterling et al. v. Velsicol Chemical Corp.*; *Andersol et al. v. W. R. Grace & Co.*) have alleged that the immune system was a target of the purported toxicity of these chemicals (Marshall 1986a, 1986b). A new trend in toxic tort law has become established in which cases are developed around data from extensive clinical evaluation of the immune system. Often subtle changes in lymphoid cell subpopulation distribution or functional alterations of immune parameters have been alleged to represent "serious immune dysfunction or dysregulation." Some expert witnesses suggest these alterations in the immune system are of grievous consequences and may ultimately result in an increased frequency of disease or tumor development. In most instances, the individuals with the speculated immune abnormality have no evidence of disease that might be linked to immune dysfunction, although some report general complaints (Marshall, 1986b). Little attempt has been made to link the type of magnitude of chemical exposure with a particular immune deficit and in some cases the offending agent was not even identified or proposed (Toxics Law Reporter, 1986).

The clinical studies which form the basis for these claims suffer from several flaws. First, some of the methods utilized have not been standardized for clinical epidemiology studies. Second, the lack of baseline data from the study population or data from a well-matched control cohort precludes interpretation of often subtle changes in immune function in the study population. Third, it has not yet been determined whether the immune changes reported are biologically significant or beyond the physiological reserve and lie outside the normal range for that individual or population.

Therefore, there is an urgent need for industry and public health authorities to begin to address the issue of biological significance, starting with the development of a panel of rational, sensitive, standardized biomarkers to detect system immune alterations. The establishment of this group of tests in humans for immune system damage may require the development of new methodology for evaluating lymphocyte activation, proliferation, and differentiation, since these endpoints are often altered in rodents exposed to immunotoxicants and are more predictive indicators than are static or basal measurements (reviewed by Dean *et al.*, 1986). Assays

for assessing receptor-ligand interaction, transmembrane signalling, gene expression, and production of activation products (e.g., cytokines) in lymphoid cells are available. These powerful new probes from molecular and cell biology can now be used to examine and understand toxic phenomena. Toxicologists should embrace this new methodology to characterize and understand mechanisms of injury to cell or organ systems.

CIIT is tackling the dilemma of selecting appropriate methodology and improving risk extrapolation from rodents to humans in the area of chemical-induced immunotoxicity by using human lymphocytes exposed to chemical in tissue culture for cell activation and differentiation models previously validated in rodents. It is recognized that certain assumptions will have to be made about the pharmacokinetics and disposition of the chemicals under study. However, *in vitro* human lymphocyte exposure systems will provide a correlative data base allowing industry to move from a defensive posture to an enlightened understanding about the effects of chemicals on the immune system. Money spent to understand mechanisms of chemical injury to lymphoid cells and to develop more relevant biomarkers of injury will do more to prevent litigation than money spent to settle cases out-of-court when no real injury is evident.

Earlier this year, in response to these concerns, the Center for Environmental Health within the Centers for Disease Control, in cooperation with the Agency for Toxic Substances and Disease Registry, established a Committee on Biomarkers of Organ Damage and Dysfunction to address the selection of appropriate biomarkers to detect chemical injury to the kidney, liver, and immune system. The author is a member of this committee and believes that the committee can be helpful in recommending appropriate guidelines on the use of clinical assays and the development of more predictive or standardized methodology where needed.

References

- Dean, J. H., Murray, M. J., and Ward, E. C. (1986). Toxic responses of the immune system. In: Casarett and Doull's Toxicology, The Basic Science of Poisons, 3rd ed. C. D. Klaassen, M. O. Amdur, and J. Doull, eds., MacMillan Publishing Co., New York, 245-285.
- Marshall, E. (1986a). Woburn case may spark explosion of lawsuits. *Science* 234, 418-420.
- Marshall, E. (1986b). Immune system theories on trial. *Science* 234, 1490-1492.
- Science and Toxic Tort Law: Novel strategies in the Woburn litigation. *Toxics Law Reporter* 1986, 374-381.

AP00036906

Chemical Industry Institute of Toxicology



President, Robert A. Neal, Ph.D.
Vice President, Director of Research, James E. Gibson, Ph.D.
Vice President, Administration and Secretary, Donald A. Hart, Ed.D.

P. O. Box 12137
6 Davis Drive
Research Triangle Park,
North Carolina 27709
(919) 541-2070

VISIT TO CIIT BY THE KENNEDY GROUP

October 1, 1987

List of Attendees

Mr. C. J. Caldwell
Chairman of the Executive Committee
National Starch & Chemical Corporation

Dr. Ernest H. Drew
President and Chief Operating Officer
Hoechst Celanese Corporation

Mr. Arden B. Engebretsen
Vice Chairman and Chief Financial Officer
Hercules, Incorporated

Mr. Clyde R. Greenert
Director of Public Policy
Union Carbide Corporation

Mr. Vincent L. Gregory, Jr.
Chairman and Chief Executive Officer
Rohm & Haas Company

Mr. E. D. (Ned) Griffith
Manager of Public Affairs
ARCO Chemical Company

Mr. Robert Kennedy
Chairman and Chief Executive Officer
Union Carbide Corporation

Mr. Philip Krug
Executive Vice President
The Lubrizol Corporation

Mr. H. Eugene McBrayer
President
Exxon Chemical Company

Mr. Bill Parker
Director
Safety and Environmental Affairs
Phillips Petroleum Company

Dr. J. Fred Pendleton
Environmental Officer
Borg-Warner, Incorporated

Dr. Brian Rushton
Vice President, Research and Development
Air Products & Chemicals, Incorporated

Mr. Ron Van Mynen
Vice President
Safety and Environmental Affairs,
Chemicals and Plastics Group
Union Carbide Corporation

Mr. Irwin S. Zonis
President
Essex Industrial Chemicals, Incorporated

AP00036907

Memorandum

AIR
PRODUCTS 

To: D. F. Baker

Dept.:

From: L. B. Tappet, M.D.

Dept./Ext.:

Date: 16 July 1987

Subject: CIIT

cc: B. M. Rushton

AIR PRODUCTS INC.

JUL 20 1987

D. F. BAKER'S OFFICE

Brian Rushton and I have briefly discussed the worth of CIIT to APCI and the chemical industry. Our annual dues assessment is \$123,857, which sum is determined by the overall CIIT budget and our net annual sales for chemicals. The budget is set by the member companies.

There is no question of the quality of work done at CIIT. The issue is whether the work meets the needs of the chemical industry. Relevant points:

1. Research is not primarily the "testing" of chemicals but is, rather, mechanism-oriented with long-term goals relevant to responsible company practices and rational governmental regulations. It is no longer appropriate for EPA or FDA to simply cry "carcinogen" when CIIT can show that rodent studies may be valid for man only under certain circumstances. Risk assessment is becoming more sophisticated, and CIIT is leading the way.
2. At a time when the anti-industry bigots are complaining about "deregulation" and lax agency surveillance, CIIT is a prime example of social responsibility in the business community. Even the Environmental Defense Fund would agree.
3. Air Products has gotten its fair share of CIIT attention. The CIIT studies of the carcinogenicity of DNT and the metabolic studies in man were done with our material and our Pasadena people. Accordingly, we are leaders in plant hygiene and work practices. Some day we may need this record.

AP00036908

4. In contrast to du Pont, Exxon, Dow, Monsanto, and others, APCI does not have its own toxicology laboratory and sponsors relatively little toxicological research. CIIT is our vehicle for studies which, over the long haul, promote corporate responsibility and public health.
5. A decrement in commitment to CIIT would be especially disadvantageous from the socio-political point of view when we are perceived to be in a "deregulatory" period. Industry's claim to responsible behavior, self-regulation, and sensitivity to environmental concerns would be materially weakened if CIIT were to be neglected or abandoned when the governmental "heat" is off.

The budget is about right, but there are too few members. Pat McCurdy, Editor of Chemical Week, puts it strongly (see attachment).

If you visit (with or without Mr. Kennedy), you will be impressed. But the importance of CIIT is not demonstrable through a tour of laboratories. We need to see beyond that from a higher helicopter.

LBT:bmw

AP00036909

Anthony J. Diglio
Director
Corporate Environmental Activities
(215) 481-8339

AIR
PRODUCTS

2 March 1987

D. F. Baker

Dex:

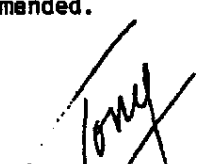
This is in reply to your request concerning the CMA Executive Committee March meeting's action items.

CMA requests the Executive Committee member's approval of their proposed legislative positions on:

- Nonattainment - Clean Air Act
- Acid Rain - Clean Air Act
- Worker Notification - Gaydos/Metzenbaum Bills

The CMA proposed positions are attached.

Your approval is recommended.


A. J. Diglio

AJD:pbr

Attachment: CMA Proposed Positions

AP00036910