

Dioxin: A Toxicology Concern

The EPA Dioxin Documents Peer Review meeting was held in Cincinnati, Ohio on August 27, 28 and 29th. The three-day meeting lasted over a week in the news reports published in many areas of the country. Although billed as a technical meeting, the news reports gave the topic more of a political than technical flavor.

The EPA Dioxin Documents deal with fate, transport and toxicology although most technical focus is on toxicology. Only two reviewers, Louis Thibodeaux and Ralph Nash, out of a panel of 30 scientists are technically qualified to discuss fate and transport. The remaining 28 technologists were there to discuss the toxicology of the dioxins. This lopsided emphasis is hard to understand since the fate and transport mechanisms must be known to fully characterize human exposure concerns. If in fact the dioxins of concern are destroyed prior to human contact the toxicology concerns are of questionable importance.

Based on newspaper accounts of the meeting the concentration of concern in water was reduced from 2.1 parts per quintillion (2.1×10^{-18}) to 21 parts per sextillion (2.1×10^{-20}). This is equivalent to 4 molecules per milligram of water to 4 molecules per 0.1 grams of water. Level at which analytical detection is hard to visualize.

At this time politics is dictating action on 2, 3, 7, 8 TCDD and other dioxins. When the cost of dealing with these irrational levels are defined, hopefully good science will be used to define control requirements.

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Jerry M. Schroy

/jt

MONTHLY STATUS REPORT
J. M. SCHROY

APRIL, 1983
SUBMITTED MAY 6, 1983

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1. DEVELOPMENT/PROJECT WORK
CEA 5-0686 WORKPLACE EXPOSURE CONTROL

AWAITING COMMENTS ON TWO GUIDELINES AT THIS TIME. ACTIVITIES MINIMAL DUE TO EFFORT FOR ENVIRO-CHEM AND DELAYS IN CHANGES IN THE RESOURCE DIRECTORY DUE TO ADDED PERSONNEL MOVES WITHIN CED. ADDITIONAL MOVES IN MAY AND/OR JUNE ARE EXPECTED FOLLOWING THE LATEST REORGANIZATION CAUSING FURTHER DELAYS IN THE DIRECTORY REVISION.

CEA 5-0668 TECHNOLOGY DEVELOPMENT

ATTENDED THE NINTH ANNUAL RESEARCH SYMPOSIUM - LAND DISPOSAL, INCINERATION AND TREATMENT OF HAZARDOUS WASTE IN CINCINNATI DURING THE FIRST WEEK OF MAY. THE TECHNICAL MEETING WAS PRESENTED BY THE EPA TO HIGHLIGHT THE RESEARCH AND DEVELOPMENT WORK COMPLETED BY EPA STAFF AND EPA CONTRACTORS. DISCUSSION OF THE TECHNICAL RESOURCE DOCUMENTS COMPLETED TO DATE FOR HAZARDOUS WASTE DISPOSAL WAS A HIGHLIGHT OF THE CONFERENCE. THESE DOCUMENTS WILL BE ORDERED TO ADD TO THE ENVIRONMENTAL ENGINEERING GROUPS DATA BASE FOR A BETTER UNDERSTANDING OF THE DOCUMENT RESOURCES TO BE USED BY THE PERMIT WRITERS AND FACILITY DESIGN REVIEWERS. THE PROCEEDINGS OF THE CONFERENCE RELATED TO LAND DISPOSAL ARE TO BE ISSUED IN THE NEXT 90 DAYS.

ATTENDED DR. JAMES TIEDJE'S TALK ON THE MECHANISM OF BIODEGREATION. THE SEMINAR WAS ORGANIZED BY BILL GLEDHILL TO HIGHLIGHT WORK BY DR. TIEDJE AND HIS GRADUATE STUDENTS AT THE UNIVERSITY OF MICHIGAN. THE TALK DEALT WITH THE MECHANISMS FOR TREATMENT OF SPECIFIC CHEMICALS AND HAS POTENTIAL APPLICATION TO THE EFFORTS ON GLYPHOSATE DESTRUCTION, OR OTHER SPECIFIC CHEMICALS SUCH AS THE PRIORITY POLLUTANTS.

CEA 5-0132 REGULATORY RESPONSE

CONTINUED EFFORT ON TCDD QUESTIONS FOR EPS IN RESPONSE TO REQUEST BY JIM WILSON. RESULTS OF FIELD TESTS MATCH PREDICTIONS FOR THE LONG TERM FATE OF TCDD BASED ON SAMPLES TAKEN BY EPS FROM A CONTAMINATED SITE IN TIMES BEACH. AS A RESULT OF THIS EFFORT MONSANTO EPS PERSONNEL VISITED DOW CHEMICAL TO DISCUSS THE AVAILABILITY OF PHYSICAL PROPERTY DATA ON THE DIOXINS. DOW OFFICIALS INDICATED THAT THEY HAD NOT DEVELOPED ANY BASIC PHYSICAL PROPERTY DATA OR EVALUATED THE QUESTION OF TCDD FATE.

MONSANTO HAS ELECTED TO HAVE PHYSICAL PROPERTY DATA MEASURED FOR TCDD TO VERIFY SOME OF THE VALUES I ESTIMATED EARLIER THIS YEAR. THIS DATA DEVELOPMENT WILL BE USED IN THE SUPPORT DR. ROUSH IN HIS ACTIVITIES ON THE MISSOURI TCDD BLUE RIBBON TECHNICAL COMMITTEE. THE DATA MAY ALSO BE OF VALUE IN ACTIONS INVOLVING MONSANTO PLANTS WHICH HAVE OR ARE PROCESSING CHLORINATED PHENOLIC COMPOUNDS.

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VISITED WITH NIOSH CONTROL TECHNOLOGY PERSONNEL TO PASS ON COMMENTS RELATED TO THEIR LATEST PROPOSAL FOR DEALING WITH

EXPOSURE CONTROL PRACTICES IN THE CHEMICAL INDUSTRY. THE TALKS WENT VERY WELL AND THE COMMENTS WILL BE USED IN THE AGENCY'S EFFORTS TO EFFECT TECHNOLOGY TRANSFER OF CONTROL PRACTICES VIA A DOCUMENT EQUIVALENT TO THE CED WORKPLACE EXPOSURE CONTROL MANUAL. WITH ANY LUCK THE AGENCY WILL DOCUMENT NEW DATA WHICH CAN BE USED IN THE PREPARATION OF ADDITIONAL GUIDELINES FOR THE CED 'YELLOW BOOK'.

THE MEETING WITH THE AGENCY PERSONNEL, PLUS A TELEPHONE DISCUSSION HELD EARLIER IN THE MONTH, ALSO INVOLVED A REQUEST FOR SUPPORT FOR THE TECHNICAL PROGRAM AND PRACTICAL INPUT TO OFFSET COMMENTS FROM UPPER MANAGEMENT NIOSH OFFICIALS WHICH CALLED FOR MORE INVOLVED FIELD TESTS. COMMENTS WERE GIVEN ON THE SUGGESTIONS BY THE NIOSH MANAGEMENT AND THE INFORMATION WAS PASSED TO TOM EVANS OF EPS. CMA CONTROL TECHNOLOGY TASK GROUP ACTIVITIES WILL FOCUS ON INVOLVEMENT WITH NIOSH MANAGEMENT TO AVOID MORE COMPLEX TESTING DURING NIOSH PLANT VISITS.

ASSISTED LEO PARADIS ON THE PREPARATION OF COMMENTS ON THE PROPOSED CTG FOR EMISSION CONTROLS FOR THE POLYMER, RESINS AND SYNTHETIC FIBERS INDUSTRIES. THE COMMENTS WERE USED FOR INPUT TO THE CMA TESTIMONY AND WRITTEN INPUT AND IN COMMENTS TO BE SUBMITTED BY LEO FOR MONSANTO.

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2. CONSULTING

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CEA 9-9908 MUSCATINE SLUDGE DISPOSAL, MUSCATINE, IOWA

NO FURTHER ACTION PLANNED UNTIL THE STATE RESPONSE IS RECEIVED.

CEA 9-9111 ENVIRO-CHEM/KEOKUK LAWSUIT, ST. LOUIS, MO.

90% OF MY ACTIVITIES IN APRIL CENTERED ON ENVIRO-CHEM CONSULTING EFFORTS ON THE KEOKUK ARBITRATION CASE.

COMPLETED A REVIEW OF THE DOCUMENTS USED BY THE CITY OF KEOKUK IN SUPPORT OF THEIR LEGAL ACTION. THE COMMENTS WERE GIVEN TO BOTH IN-HOUSE AND EX-MONSANTO LAWYERS DURING AN ALL DAY TRAINING SESSION HELD AT THE EX-MONSANTO LEGAL STAFF OFFICES IN DES MOINES. THE TRAINING SESSION INCLUDED A SESSION ON THE TECHNOLOGY OF WASTEWATER TREATMENT TO FAMILIARIZE THE LAWYERS WITH THE LANGUAGE OF THE FIELD AND THE SPECIFICS OF THE KEOKUK WASTEWATER TREATMENT PLANT.

A MEETING WAS HELD WITH SVERDRUP AND PARCEL PERSONNEL TO DISCUSS THE QUALIFICATIONS AND CANDIDATES FOR TECHNICAL CONSULTANTS TO REVIEW THE TREATMENT PLANT DESIGN AND TO DOCUMENT THE RESPONSIBILITIES FOR THE PRESENT TREATMENT PLANT DESIGN PROBLEMS.

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ACTIVITIES IN MAY WILL CENTER ON FURTHER DEFINITION OF THE QUESTIONS RAISED DURING THE MEETING WITH THE LAWYERS IN DES MOINES. THE COMPLETION OF A REVIEW OF THE ENVIRO-CHEM FILES FOR APPROPRIATE SUPPORT DOCUMENTS AND VERIFICATION OF PAST TECHNICAL ANALYSIS ARE TO BE COMPLETED FOLLOWING A VISIT TO THE KEOKUK TREATMENT PLANT. NO FIRM SCHEDULE IS SET FOR THE PLANT VISIT ALTHOUGH THE ARBITRATION CASE IS TO BEGIN SOMETIME NEAR MID-JUNE.

CEA 9-7591 SUPERBUG LABORATORY TESTS, LULING/FAYETTEVILLE

EFFORTS TO ESTIMATE THE MAXIMUM AND MINIMUM OPERATING TEMPERATURE OF THE LULING WASTEWATER TREATMENT BASIN WERE COMPLETED DURING EARLY MAY. THE ESTIMATES SHOW THE ACCURACY OF THE ESTIMATING PROCEDURE BASED ON A COMPARISON TO ACTUAL OPERATING CONDITIONS FOR THE MONTH OF APRIL WITH ESTIMATES FOR JULY AND DECEMBER REPRESENTING THE WARMEST AND COLDEST MONTHS. THE RESULTS WERE PREPARED AND DOCUMENTED AT MY DIRECTION BY ERIC BRIMER.

CEA 9-9158 TRENTON CONSULTING-RESINS, TRENTON, MI

FORWARDED A PROPOSAL FOR RESEARCH ON THE USE OF ANAEROBIC PRETREATMENT TO JEFF WHITING OF THE RESINS OPERATING UNIT. THE \$15,000 PROPOSAL WAS PREPARED BY BILL ELWOOD BASED ON SOME WORK BY THE FIRM THAT COMPLETED THE FAYETTEVILLE ANAEROBIC TEST WORK. THE PLANT IS VERY INTERESTED IN THIS TECHNOLOGY AND HAS REQUESTED ADDITIONAL ECONOMIC DATA TO PREPARE A REQUEST FOR RESEARCH EFFORT. THE OPERATING PERSONNEL HAVE APPROVED THE TEST WORK BUT THE TECHNICAL STAFF NEEDS THE ECONOMICS TO SHOW THE POTENTIAL FOR SAVING ON THE PROJECT IF SUCCESSFUL. BILL ELWOOD IS HAVING THE DATA PREPARED FOR THE PLANT BY THE CONSULTANT.

TO COMPLETE AN ENVIRONMENTAL IMPACT ANALYSIS RELATED TO A POTENTIAL NEW PRODUCT FOR THE TRENTON PLANT IN MAY.

CEA 9-9136 WCK VOC FUGITIVE EMISSION CONTROL

ILLINOIS HAS COMPLETED ITS EFFORTS ON THE FUGITIVE EMISSION REGULATIONS AND HAS FORWARDED A COPY OF THE ECONOMICS FOR REVIEW TO THE PLANT. A MEETING IS TO BE HELD IN MAY WITH THE PLANT PERSONNEL AND THE EPS STAFF AND LAWYERS TO IDENTIFY THE KEY POINTS TO BE FORWARDED TO THE ILLINOIS EPA PRIOR TO THE JUNE HEARINGS ON THIS REGULATION.

THE EXPERIENCES OF THE WCK STAFF ARE TO BE PRESENTED AT THE JUNE ENVIRONMENTAL WORKSHOP BY ME.

CEA 9-3746 FORMALDEHYDE EMISSION STUDY, LULING, LA.

NO ACTION ON THIS PROJECT THIS MONTH.

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3. MISCELLANEOUS

ATTENDED A MEETING WITH THE FELLOW SYMPOSIUM PROGRAM COMMITTEE TO GET APPROVAL ON THE PROGRAM FOR THE SECTION OF THE PROGRAM WHICH I AM RESPONSIBLE. I ALSO MET WITH BOB REASS OF CORPORATE TRAINING AND BOB LAFTON TO DISCUSS THE DETAILS OF THEIR PRESENTATION AT THE FELLOW SYMPOSIUM.

PROVIDED DATA TO RICK BELL ON THE TOTAL DISSOLVED SOLIDS (TDS) IMPACT ON WASTEWATER TREATMENT PROCESSES FOR INPUT TO ED JAMRO OF THE DELEWARE RIVER PLANT FOR USE DURING PERMIT NEGOTIATIONS.

CONTINUED TO PROVIDE DOCUMENTS FOR BRENDA DANILIO OF THE CHOCOLATE BAYOU PLANT TO USE IN THE NEGOTIATIONS OF THE SORBIC AIR EMISSION PERMIT. THE STATE OFFICIALS REVIEWING THE PERMIT CONTINUE TO QUESTION THE INPUT ON FUGITIVE EMISSIONS USED BY THE PLANT IN THE PERMIT APPLICATION.

ANSWERED QUESTION BY GARY JOHNSON OF MFI ON FUGITIVE EMISSIONS FOR USE IN THE ESTIMATE OF LOSSES FOR THE PROPOSED ACY UNIT AT CHOCOLATE BAYOU.

PROVIDED INPUT TO RICH BALTZ OF NITRO ON SLUDGE HANDLING TECHNOLOGY FOR EVALUATION OF ALTERNATE DISPOSAL ROUTES.

ARRANGED COLLECTION OF SAMPLES FOR DON KUO IN HIS EFFORTS TO ISOLATE A BACTERIA CAPABLE OF TREATING NTA WASTES AND WASTES FROM AN ACRYLONITRILE PLANT. THE CHOCOLATE BAYOU PERSONNEL ARE TO COLLECT THE SAMPLES OF SOLIDS FROM THE SEWER SYSTEM FOR DR. KUO.

COMPLETED MARCH MONTHLY REPORT THIS MONTH. THIS WILL BE THE LAST REPORT PREPARED FOR GLENN SMITH BASED ON THE CED REORGANIZATION WHICH NOW HAS ME REPORTING TO WALT SCRUGGS.

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#9

September 25, 1980

L. L. Little,

As Mayor of the Town of Bancroft I frequently talk with W. Stuart Calwell, the Town's Attorney. This afternoon in a conversation with him, he asked me how long I had been with Monsanto, and how long a member of supervision. It was when he began asking specific questions about 2,4,5-T, para-amino biphenyl, and Sopanox, that I became suspicious and asked him if I was being "pumped" for information that may be used against my employer. He laughed and said he was "just curious". I told him that I felt his interest somewhat beyond the bounds of normal curiosity, and I resented being put in the position of a witness, even if only in an incidental conversation.

Mr. Calwell asked specifically about the dioxin that shows up in miniscule amounts in 2,4,5-T. I told him that it is a dangerous substance, but its level could be kept in tolerable bounds with sufficient process control. The Seveso incident discharged a dioxin-rich substance apparently caused by a loss of temperature control. The unusual incidents are the ones that people remember. I also told him that there seems to me to be an element of individual susceptibility in connection to contact with this dioxin. Some people who have worked in the manufacture of 2,4,5-T are badly affected while others are not. This product was discontinued by Monsanto some time ago. I told Mr. Calwell that I was involved in the analysis of this product, and that one of the procedures in the laboratory involved concentration of the dioxin to a level where it could be detected. I seem to have suffered no ill effects from it, and while this is no proof that it is harmless, should indicate that personal awareness of hazards connected with any chemical substance goes far in preventing injury.

Regarding PAB, I did not work at the Nitro plant when it was manufactured. I do know that Monsanto ceased production immediately there was an awareness of the effects of it. People who contracted the problems caused by PAB are not forgotten. It was not known beforehand what the substance could do to a person, but once known I feel Monsanto acted responsibly.

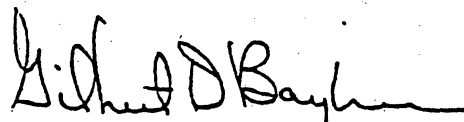
He asked me why people who worked in Sopanox manufacture were provided with lemonade. Was it to flush the kidneys? I told him that I didn't know. The stuff caused violent sneezing. In any case, this is a product that hasn't been made at Nitro for many years.

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Mr. Calwell was told that if he wanted any information he should contact the Nitro Plant Manager's office or Monsanto Headquarters in St. Louis. He would not tell me why he was asking the questions, but it is probable that an employee or former employee has retained Mr. Calwell for some action against the Company.



Gilbert D. Bayless
Maintenance F.L.S.

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C14889

C16666

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Here is your original
contact w/ my notation
on the copy.
Tony,
3/6/85

Peter Smith, G3WB
Here is the contact and
other attached info.
Please advise, update or
advise you how to do.
Thank
3/26/85

1 Tony Waas