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MONSANTO INDUSTRIAL CHEMICALS COMPANY
WORKPLACE HEALTH AND THE ENVIRONMENT
PRESENTATION TO THE SOCIAL RESPONSIBILITY COMMITTEE

JANUARY 27, 1984

ENVIRONMENTAL OPERATIONS ACTIVITIES INCLUDE THOSE DIRECTLY ASSOCIATED WITH MIC PLANTS, PROCESSES AND PRODUCTS, AND BY AGREEMENT WITH ITS MANAGEMENT, THOSE RELATING TO THE MONSANTO ELECTRONIC MATERIALS COMPANY. THE TOTAL REPRESENTS A COMPLEX COMBINATION OF 34 SITES WORLDWIDE, ABOUT 200 PRODUCTS, OVER 500 RAW MATERIALS, INTERMEDIATES AND WASTE STREAMS AND OVER 8000 EMPLOYEES NOT INCLUDING A VARYING NUMBER OF CONTRACT PERSONNEL. THE RESOURCES REQUIRED TO ADDRESS ENVIRONMENTAL PROTECTION, WORKPLACE HEALTH AND PRODUCT SAFETY ARE SIGNIFICANT. WE HAVE THE EQUIVALENT OF 250 EMPLOYEES WITH ENVIRONMENTAL ASSIGNMENTS AND AN ANNUAL BUDGET EXCEEDING \$60M FOR DIRECT COSTS SUCH AS THOSE RELATING TO MONITORING, SAMPLING AND ANALYSIS PROGRAMS, WASTE TREATMENT, MEDICAL SERVICES. ADDITIONAL COSTS RELATING TO ENVIRONMENTAL RESEARCH AND DEVELOPMENT, TOXICOLOGY TESTING AND CAPITAL ADDITIONS ARE ALSO SIGNIFICANT.

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SLIDE ENVIRONMENTAL ISSUES RELATING TO OUR PROCESSES AND PLANTS ARE UNDER CONSTANT REVIEW. KEY ISSUES CURRENTLY RECEIVING PRIORITY ATTENTION ARE 1) INACTIVE WASTE DISPOSAL SITES, 2) GROUNDWATER SURVEILLANCE, AND 3) MANAGEMENT OF CURRENTLY PRODUCED WASTES. WE ARE RESPONDING TO ALLEGATIONS THAT MONSANTO WAS A SOURCE OF WASTES IDENTIFIED WITH SUPERFUND SITES AT WOBURN, MASSACHUSETTS AND SCHWARTZ CREEK, MICHIGAN. WE BELIEVE THAT MONSANTO INVOLVEMENT IN THE WOBURN SITE CANNOT BE LEGALLY ESTABLISHED, HOWEVER, WE ARE CONSIDERING JOINING STAUFFER CHEMICAL COMPANY IN COMPLETING AN ONGOING STUDY AND DEVELOPING A COST EFFECTIVE REMEDIAL ACTION PLAN. OUR INVOLVEMENT IN MICHIGAN APPEARS TO BE MINOR RELATIVE TO OTHER IDENTIFIED GENERATORS. WE ARE REPRESENTED ON THE STEERING COMMITTEE FORMED BY THE POTENTIAL RESPONSIBLE PARTIES. WE INTEND TO CONTRIBUTE OUR FAIR SHARE TOWARD RESPONSIBLE CLEANUP OF THE AREA. ANOTHER SITE OF CONCERN, BUT NOT ON THE SUPERFUND LIST, IS THE INACTIVE CAPPED LANDFILL ALONG THE MISSISSIPPI RIVER AT THE W. G. KRUMMRICH PLANT. THIS IS THE LARGEST ON-SITE LANDFILL IN MONSANTO. AFTER MONTHS OF INACTIVITY PROMPTED BY THE FILING OF A LAWSUIT BY THE ILLINOIS ATTORNEY GENERAL IN 1982 WE HAVE REINSTITUTED A TESTING AND MONITORING PROGRAM TO DETERMINE IF THE SITE IN ITS PRESENT CONDITION IS A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT.

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MIC IS ~~ACTIVELY~~ INVOLVED IN A PROGRAM TO ASSESS THE POTENTIAL CONTAMINATION OF GROUND WATERS BY PAST AND CURRENT ACTIVITIES AT PLANT SITES. SEVERAL PLANTS HAVE COMPLETED THE MAJOR PORTION OF THEIR STUDIES AND ARE NOW IN A LONG TERM MONITORING PHASE WHILE OTHERS ARE BEGINNING DEVELOPMENT OF SITE MONITORING PLANS. IT IS MIC'S INTENT TO COMPLETE ALL ASSESSMENTS BY THE END OF 1984. ABATEMENT PLANS WILL BE DEVELOPED AND IMPLEMENTED WHERE SUCH ACTION IS NEEDED TO CORRECT UNACCEPTABLE SITUATIONS.

MIC WORKS ON A DAILY BASIS TO ASSURE THAT HAZARDOUS WASTE, PAST AND PRESENT, IS MANAGED IN A RESPONSIBLE MANNER, AND IS FULLY COMMITTED TO CORPORATE GUIDELINE NO. 2. COORDINATION OF THIS EFFORT IS ASSIGNED TO MANUFACTURING MANAGEMENT. MIC CURRENTLY GENERATES 2.3 BILLION LBS. OF HAZARDOUS WASTE WHICH IS A 15% REDUCTION FROM 1981 AND STRIVES THRU AN AGGRESSIVE TECHNICAL EFFORT TO PERMANENTLY REMOVE CURRENT WASTE FROM THE ENVIRONMENT AND TO REDUCE THE QUANTITY GENERATED. THERE WILL BE 22 R&D PERSONNEL WORKING ON THE EFFORTS IN 1984; TWICE THAT OF 1983. THROUGH THIS APPROACH IT WILL ALSO BE POSSIBLE TO SIGNIFICANTLY REDUCE THE USE OF LANDFILLS BY 1/1/86.

ANOTHER AGGRESSIVE MIC PROGRAM IS THE SALE OF CO-PRODUCTS FROM OUR PROCESSES WHICH WOULD HAVE TO BE DISPOSED OF IN THE ENVIRONMENT IF NOT SOLD. CURRENTLY THERE ARE 140 MILLION LBS. PER YEAR OF CO-PRODUCTS SOLD BY THIS APPROACH.

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FINALLY, AS A RESULT OF THE GROWING INTEREST OF THE REGULATORS IN REDUCING/ELIMINATING THE USE OF DEEP WELLS FOR DISPOSAL OF HAZARDOUS WASTES, MIC IS FULLY COMMITTED TO PROMPTLY DEFINING ALTERNATE TECHNOLOGIES.

DURING THE PERIOD FROM THE LATE 1940's TO THE EARLY 1960's, TWO OF OUR PLANTS IN THE ST. LOUIS AREA, THE W. G. KRUMMRICH AND J. F. QUEENY, PROCESSED THE HERBICIDE 2,4,5-T, ONE OF THE INGREDIENTS IN AGENT ORANGE. THE HERBICIDE WAS CONTAMINATED WITH DIOXINS, CHEMICALS OF CONSIDERABLE CONCERN TO THE REGULATORY AGENCIES.

THE TWO PLANTS VOLUNTARILY IMPLEMENTED SAMPLING AND ANALYSIS PROGRAMS TO DETERMINE IF A HEALTH HAZARD EXISTS. RESULTS TO DATE ARE ENCOURAGING. DR. ROUSH ASSURES US THAT THE LEVELS FOUND DO NOT POSE ANY PROBLEMS FOR OUR EMPLOYEES. GEORGE KNOLLMAYER, THE PLANT MANAGER AT THE QUEENY PLANT, WILL DESCRIBE FOR YOU THE PROGRAM CONDUCTED AT HIS PLANT.

SLIDE CONCERN FOR CHEMICAL EXPOSURE IN THE WORKPLACE AND THE RELATIONSHIP TO CARCINOGENIC, REPRODUCTIVE, NEUROLOGICAL AND BEHAVIORAL EFFECTS REQUIRES THE SUPPORT OF A SIGNIFICANT AND COSTLY TOXICOLOGICAL STUDY PROGRAM AS WELL AS THE MAINTENANCE OF AN EFFECTIVE HEALTH SURVEILLANCE PROGRAM AT OUR PLANTS.

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IN CLOSE COOPERATION WITH THE OCCUPATIONAL MEDICINE AND INDUSTRIAL HYGIENE RESOURCES IN THE DEPARTMENT OF MEDICINE AND ENVIRONMENTAL HEALTH WE CONTINUE TO CRITICALLY ASSESS OUR EFFORTS, DESIGN MORE EFFECTIVE MONITORING AND IMPLEMENT HIGH QUALITY SUSTAINING INDUSTRIAL HYGIENE PROGRAMS.

EPIDEMIOLOGIC MORTALITY STUDIES WILL CONTINUE TO BE USED TO ASSESS ADVERSE EFFECTS OF PAST EXPOSURES. THE TOTAL SITE MORTALITY STUDY FOR THE W.G. KRUMMRICH PLANT IS SCHEDULED FOR COMPLETION THIS YEAR. THIS STUDY WILL PROVIDE CAPABILITY TO ASSESS MORTALITY RELATING TO SPECIFIC PROCESSES. SIMILAR STUDIES ARE ALSO SCHEDULED FOR THE J. F. QUEENY AND EVERETT PLANTS DURING 1984. REQUIREMENTS FOR STUDIES AT THE OTHER MIC SITES WILL BE ESTABLISHED AND COMPLETED IN SUBSEQUENT YEARS.

SLIDE PRODUCT SAFETY CONCERNS INCLUDE MANAGEMENT OF THE POLYCHLORINATED BIPHENYL (PCB) ISSUE, DEVELOPING A MORE COMPREHENSIVE TOXICOLOGY DATA BASE, PRODUCT ASSESSMENTS AND SURVEILLANCE OF OUR PRODUCTS IN THE ENVIRONMENT.

PCBs REMAIN AN EMOTIONAL ISSUE. WE CONTINUE TO IMPLEMENT THE PCB ISSUES MANAGEMENT PROGRAM FOR THE CORPORATION TO MINIMIZE NEGATIVE IMPACT ON MONSANTO. WE PROVIDE SUPPORT FOR LEGAL

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DEFENSE, ATTEMPT TO INFLUENCE FOR MORE REASONABLE PCB REGULATIONS, TRY TO REDUCE PUBLIC HYSTERIA THROUGH BETTER UNDERSTANDING OF PCB HEALTH AND ENVIRONMENTAL EFFECTS AND GUIDE MONSANTO PLANTS FOR EFFECTIVE COMPLIANCE WITH REGULATIONS.

A KEY ELEMENT IN ASSURING THE SAFETY OF OUR PRODUCTS IS THE ACQUISITION OF A SOUND TOXICOLOGY DATA BASE. MORE TESTING IS BEING CONDUCTED TO EVALUATE NEW PRODUCTS AND TO ACQUIRE INFORMATION ON EXISTING PRODUCTS, MANY OF WHICH ARE LACKING THE TYPE OF HEALTH DATA NOW REQUIRED. WHEREVER PRACTICAL WE JOIN OTHER PRODUCERS, AS WELL AS USERS, TO CO-SPONSOR STUDIES. COSTS IN 1983 APPROACHED \$2.0M. THE DEVELOPMENT OF NEW PRODUCTS AND THE DEMANDS OF REGULATORY AGENCIES AND SOCIETY FOR DATA NOT PREVIOUSLY SOUGHT, WILL REQUIRE INCREASED EXPENDITURES IN THE FUTURE. WE HAVE BUDGETED \$4.0M FOR 1984. PRODUCT ASSESSMENTS ARE CONDUCTED BY MULTI-DISCIPLINARY PANELS TO ASSURE THAT OUR PRODUCTS ARE ACCEPTABLE FOR THEIR INTENDED USE WHEN PROPERLY HANDLED, USED AND EVENTUALLY DISPOSED. COMPLETION OF THE FIRST ROUND OF ASSESSMENTS IS TARGETED FOR 1985.

SURVEILLANCE OF OUR PRODUCTS IN THE ENVIRONMENT IS REQUIRED TO VERIFY POTENTIAL EXPOSURE CONCENTRATIONS. PERIODICALLY PROGRAMS HAVE BEEN AND WILL CONTINUE TO BE CONDUCTED TO ASSURE ADEQUATE SAFETY MARGINS.

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BY THE ~~END~~ OF 1983 WE DEVELOPED IMPROVED MATERIAL SAFETY DATA SHEETS FOR ALL ACTIVE MIC PRODUCTS. THESE SHEETS ARE USED TO COMMUNICATE HEALTH AND HANDLING INFORMATION TO OUR PLANTS, TRANSPORTERS AND OUR CUSTOMERS AND WILL COMPLY WITH RECENTLY PROMULGATED OSHA REGULATIONS WITH ONLY MINOR REVISIONS.

THIS COMPLETES MY PREPARED OVERVIEW. IF ANYONE HAS COMMENTS OR QUESTIONS I WILL ATTEMPT TO RESPOND.

GEORGE KNOLLMAYER, THE PLANT MANAGER AT THE J. F. QUEENY PLANT, WILL NOW REVIEW SPECIFIC EXAMPLES OF PLANT ISSUES AND THE PLANT'S RESPONSES.

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WORKPLACE HEALTH AND THE ENVIRONMENT

ENVIRONMENTAL PROTECTION

KEY ISSUES

- INACTIVE WASTE DISPOSAL SITES

WOBURN, MA

SCHWARTZ CREEK, MI

SAUGET, IL

- GROUNDWATER

- WASTE MANAGEMENT

REDUCTION

CO-PRODUCTS

DISPOSAL PRACTICES

- DIOXINS

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WORKPLACE HEALTH AND THE ENVIRONMENT

WORKPLACE HEALTH

- CHEMICAL EXPOSURE EFFECTS
 - CARCINOGENIC
 - REPRODUCTIVE
 - NEUROLOGICAL
 - BEHAVIORAL
- TOXICOLOGY TESTING
 - CURRENT PRODUCTS
 - NEW PRODUCTS
- PLANT SURVEILLANCE PROGRAMS
- EPIDEMIOLOGY
 - W. G. KRUMMRICH PLANT
 - J. F. QUEENY PLANT
 - EVERETT PLANT

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WORKPLACE HEALTH AND THE ENVIRONMENT

PRODUCT SAFETY

- PCB ISSUE
- TOXICOLOGY DATA BASE
- PRODUCT ASSESSMENTS
- ENVIRONMENTAL SURVEILLANCE
- MATERIAL SAFETY DATA SHEETS

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