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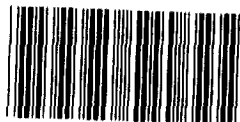
TO THE
ENVIRONMENTAL AFFAIRS SEMINAR
OHIO EPA AND OHIO MUNICIPAL LEAGUE

AUGUST 7, 1980

THE COST AND BENEFITS OF GOVERNMENT REGULATION:
AN ENVIRONMENTAL DILEMMA

I APPRECIATE THE OPPORTUNITY TO ADDRESS THIS SEMINAR ON THE COST OF GOVERNMENT REGULATION--A MOST TIMELY TOPIC. IT'S AN AREA WHICH HAS RECEIVED CONSIDERABLE ATTENTION BY THE GENERAL ACCOUNTING OFFICE (GAO). AS YOU WILL SEE WE HAVE EXPRESSED SOME STRONG AND SOMETIMES CONTROVERSIAL VIEWS ON THE SUBJECT. I HOPE YOU WILL AGREE, HOWEVER, THAT WE HAVE COME TO THESE CONCLUSIONS BY PAINSTAKINGLY GATHERING THE RELEVANT EVIDENCE AND WITHOUT ANY PRECONCEIVED NOTION OR BIASES. BY STATUTE WE ARE AN ARM OF THE CONGRESS, HEADED BY THE COMPTROLLER GENERAL, WHO IS WELL INSULATED FROM THE PRESSURES OF SPECIAL INTEREST GROUPS. THIS INSULATION ENSURES GAO THE ABILITY TO CONDUCT INDEPENDENT REVIEWS AND REPORT THE RESULTS AS WE SEE THEM

WHEN OPERATING IN THAT KIND OF AN ARENA ONE DOES NOT ALWAYS WIN A POPULARITY CONTEST. FOR EXAMPLE, WE WERE EARLY ADVOCATES OF LESS REGULATION WHEN WE PROJECTED CONSIDERABLE SAVINGS IF AIRLINE REGULATIONS WERE RELAXED. YET WE HAVE SEEN THE NEED FOR TIGHTER REGULATIONS TO ENSURE THE QUALITY AND SAFETY OF THE FOOD WE EAT.



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LET ME SPECIFICALLY ADDRESS YOUR CONCERN AT THIS SEMINAR; THE REAL IMPACT OF ENVIRONMENTAL REGULATIONS ON YOUR COMMUNITIES IN OHIO AND THROUGHOUT THE UNITED STATES. GAO'S CREDENTIALS FOR ENTERING THIS DEBATE ARE ROOTED IN MORE THAN A DECADE OF CONTINUING REVIEWS AND EVALUATIONS OF ENVIRONMENTAL PROGRAMS AND ACTIVITIES CARRIED OUT BY OUR ANALYSTS AND AUDITORS IN CONSULTATION WITH SCIENTIFIC EXPERTS AND SPECIALISTS.

BASICALLY THERE ARE THREE PRINCIPAL QUESTIONS WHICH NEED TO BE ADDRESSED IN THE BROAD SPECTRUM OF GOVERNMENT REGULATION

--WHAT IS THE NATURE OF ENVIRONMENTAL REGULATION?

--WHAT DOES IT COST, AND WHAT ARE THE BENEFITS?

--HOW CAN ENVIRONMENTAL REGULATION BE SIMPLIFIED AND THE COST REDUCED?

NATURE OF ENVIRONMENTAL REGULATION

ENVIRONMENTAL REGULATION--WHICH PLACES LIMITS ON THE AMOUNT OF POLLUTION THAT CAN BE TOLERATED WITHOUT ENDANGERING THE HEALTH AND WELFARE OF HUMAN BEINGS AND ECOLOGICAL SYSTEMS--GENERALLY TAKES TWO FORMS (1) TECHNOLOGY-BASED REGULATION AND (2) RISK-ASSESSMENT-BASED REGULATION. BOTH FORMS ARE OFTEN CONTROVERSIAL AND COMPLEX.

TECHNOLOGY BASED REGULATION

IN TECHNOLOGY BASED REGULATION--THE PRIME EXAMPLES OF WHICH ARE THE CLEAN AIR AND CLEAN WATER ACTS--UNIFORM STANDARD APPLICABLE TO EVERYONE ARE SET BASED ON AVAILABLE CONTROL

TECHNOLOGY. THIS IS A VERY RIGID FORM OF REGULATION; IT ALLOWS LITTLE FLEXIBILITY AND DOES NOT REQUIRE A COST/BENEFIT TEST. SEVERAL OF OUR REPORTS HAVE ADDRESSED THE INFLEXIBILITY IN EXISTING ENVIRONMENTAL REGULATION, THE NEED FOR A COST/BENEFIT APPROACH, AND CONFLICTING ENVIRONMENTAL REGULATIONS. FOR EXAMPLE,

--A MINIMUM OF SECONDARY WASTEWATER TREATMENT IS MANDATED BY THE CLEAN WATER ACT. THE ACT DOES NOT CONSIDER THE VARYING DEGREES OF THE ASSIMILATIVE CAPACITY AMONG DIFFERENT BODIES OF WATER. IN A MAY 1978 REPORT ON SECONDARY TREATMENT OF MUNICIPAL WASTEWATER IN THE ST. LOUIS AREA, WE ESTIMATED THAT ABOUT \$160 MILLION IN FEDERAL FUNDS COULD BE SAVED IF THE MANDATORY SECONDARY TREATMENT REQUIREMENT WERE ELIMINATED. OUR WORK SHOWED THAT SECONDARY TREATMENT IN THE ST. LOUIS AREA WOULD HAVE MINIMAL IMPACT ON THE QUALITY OF THE MISSISSIPPI RIVER.

--SIMILARLY, WE REPORTED LAST MONTH THAT ABOUT \$10 BILLION WOULD BE NEEDED THROUGH THE YEAR 2000 TO CONSTRUCT ADVANCED WASTE TREATMENT FACILITIES TO PREVENT VIOLATIONS OF WATER QUALITY STANDARDS. HOWEVER, THE STANDARD SETTING PROCESS IS IMPRECISE, ANTICIPATED VIOLATIONS MAY BE INSIGNIFICANT OR UNCERTAIN, AND ADVANCED WASTE TREATMENT MAY RESULT IN LITTLE IMPROVEMENTS IN WATER QUALITY AND THE PUBLIC HEALTH.

INFLEXIBILITY IS NOT ONLY EVIDENT WHEN LEVELS OF TREATMENT AND WATER QUALITY STANDARDS ARE MANDATED. IN A REPORT RELEASED BY GAO IN DECEMBER 1977, WE NOTED THAT LITTLE ATTENTION HAD BEEN DIRECTED TO CONTROLLING "NONPOINT" SOURCES, ALTHOUGH IN SOME AREAS SUCH SOURCES COMPRISED OVER 50 PERCENT OF THE WATER POLLUTION LOAD. IT WAS AT BEST DOUBTFUL THAT THE CONSTRUCTION OF ADDITIONAL POINT SOURCE CONTROL PROJECTS WOULD IMPROVE WATER QUALITY AS MUCH AS IMPLEMENTING PRACTICES TO CONTROL NONPOINT POLLUTION. YET COMPARED TO THE CONSTRUCTION GRANTS PROGRAM UNDER THE CLEAN WATER ACT, VERY LITTLE FUNDING IS PROVIDED FOR NONPOINT SOURCES. TO DATE THE PRIMARY PROGRAM COVERING NONPOINT POLLUTION HAS RECEIVED OBLIGATIONS OF ONLY \$368 MILLION WHILE PROGRAMS COVERING POINT SOURCES HAVE RECEIVED \$31 BILLION. NONPOINT POLLUTION, THEREFORE, IS RECEIVING ONLY ABOUT ONE PERCENT OF THE TOTAL POLLUTION FUNDING.

A PARTICULARLY TROUBLESOME SITUATION ARISES WHEN INDIVIDUAL ENVIRONMENTAL REGULATIONS--SOME TECHNOLOGY BASED-- CONFLICT OR WORK AGAINST EACH OTHER. TWO EXAMPLES COME TO MIND:

--TO COMPLY WITH ENVIRONMENTAL REGULATIONS FOR ELIMINATING BACTERIA AND OTHER ORGANISMS, COMMUNITIES USUALLY ADD CHLORINE TO TREATED

WASTEWATER. BUT THIS SAME CHLORINE IS OFTEN VERY TOXIC TO FISH, PARTICULARLY TROUT, WHICH OTHER WATER QUALITY REGULATIONS ARE DESIGNED TO PROTECT. --DISPOSING OF SLUDGE FROM SEWAGE TREATMENT PLANTS RESULTS IN A "CATCH 22" TYPE SITUATION. OCEAN DISPOSAL WILL BE PROHIBITED BY THE MARINE PROTECTION AND SANCTUARIES ACT, SLUDGE BURNING OFTEN REQUIRES EXPENSIVE STACK GAS SCRUBBING TO MEET AIR POLLUTION CONTROL REGULATIONS, AND LAND DISPOSAL MAY NOT BE PRACTICAL OR ALLOWED IF THE SLUDGE CONTAINS LEVELS OF TOXICS AND METALS BECAUSE OF THE POTENTIAL FOR GROUND AND SURFACE WATER CONTAMINATION.

OBVIOUSLY WE NEED TO SYNCHRONIZE THE REGULATIONS GENERATED BY THE FEDERAL GOVERNMENT, IF ONLY TO PRESERVE THE MENTAL STABILITY OF STATE AND LOCAL GOVERNMENTS AND THE PRIVATE SECTOR BUT EQUALLY IMPORTANT IS THE NEED TO MAXIMIZE THE USE OF LIMITED GOVERNMENTAL FUNDS AND PRIVATE CAPITAL, BY INTRODUCING SUFFICIENT FLEXIBILITY INTO THE REGULATORY PROCESS TO ACHIEVE THE GREATER OVERALL BENEFIT.

RISK ASSESSMENT BASED REGULATION

THE SECOND FORM OF ENVIRONMENTAL REGULATION--RISK ASSESSMENT BASED REGULATION--ATTEMPTS TO REACH JUDGMENTS AS TO THE RELATIVE RISKS ASSOCIATED WITH HUMAN AND ENVIRONMENTAL EXPOSURE TO POTENTIALLY DANGEROUS SUBSTANCES VERSUS THE BENEFITS OF THE USE OF SUCH SUBSTANCES. TWO EXAMPLES OF

THIS TYPE OF REGULATION ARE THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA) AND THE TOXIC SUBSTANCES CONTROL ACT (TSCA). ALTHOUGH THIS FORM OF ENVIRONMENTAL REGULATION MAY BE MORE FLEXIBLE THAN TECHNOLOGY BASED REGULATION, IT IS NOT WITHOUT ITS PROBLEMS.

RISK BASED REGULATION REQUIRES JUDGEMENTS, WHICH BECAUSE OF THE DIFFICULTY IN DETERMINING RISKS, COSTS, AND BENEFITS ARE OFTEN CONTROVERSIAL. DECISIONS CANNOT ALWAYS BE DEFERRED UNTIL ENOUGH RESEARCH HAS BEEN DONE; THEREFORE THE SCIENTIFIC BASES FOR JUDGEMENTS ARE OFTEN VERY UNCERTAIN. THE ISSUE HERE IS ONE OF WHAT SCIENTIFIC AND TECHNICAL INFORMATION IS AVAILABLE TO EPA IN ITS DECISIONMAKING PROCESS AND HOW THE AVAILABLE DATA IS USED.

EPA MUST DEAL WITH MANY SERIOUS CONSTRAINTS IN MAKING DECISIONS, SUCH AS SCIENTIFIC AND TECHNICAL ISSUES AT THE FRONTIERS OF SCIENCE. IN A GAO REPORT RELEASED LAST YEAR WE CONCLUDED, HOWEVER, THAT INDEPENDENT ASSESSMENT OF SCIENTIFIC AND TECHNICAL INFORMATION IN THE DECISIONMAKING PROCESS, SUCH AS BY EPA'S SCIENCE ADVISORY BOARD, CAN BE SUCCESSFUL IN IMPROVING THE PROCESS, AND FORESTALLING COSTLY LITIGATION.

UNFORTUNATELY, SITUATIONS CONTINUE TO EXIST WHERE SUCH INDEPENDENT ASSESSMENTS ARE NOT OBTAINED. IN CONGRESSIONAL

TESTIMONY IN MAY 1980, WE NOTED THAT EPA DID NOT USE ITS SCIENTIFIC ADVISORY PANEL TO PROVIDE SCIENTIFIC AND TECHNICAL ADVICE FOR AN EMERGENCY SUSPENSION OF THE PESTICIDES 2,4,5-T AND SILVEX. AS A RESULT, SERIOUS QUESTIONS HAVE BEEN RAISED ABOUT THE EVIDENCE AND THE PROCEDURES USED TO SUPPORT THE SUSPENSION.

COSTS AND BENEFITS OF ENVIRONMENTAL REGULATION

DETERMINING THE COST AND BENEFITS OF ENVIRONMENTAL REGULATION IS BOTH DIFFICULT AND CONTROVERSIAL. QUESTIONS CONSTANTLY ARISE AS TO THE APPROPRIATE METHODOLOGY FOR MEASURING COSTS AND BENEFITS TO BE USED, THE BASE YEARS TO BE USED FOR COMPARISON PURPOSES, AND HOW TO VALUE ENHANCED AESTHETICS, IMPROVEMENTS IN HEALTH, AND THE PROLONGATION OF LIFE.

NEVERTHELESS, ENVIRONMENTAL REGULATION COST AND BENEFIT ESTIMATES ABOUND, MANY OF WHICH DO NOT USE COMPARABLE BASES AND APPROPRIATE METHODOLOGIES AND MOST OF WHICH INVOLVE STAGGERING SUMS. FOR EXAMPLE:

COSTS

--AN EPA CONTRACTOR STUDY OF THE COST OF COMPLYING WITH FEDERAL POLLUTION CONTROL REQUIREMENTS DURING THE MID-1970s FOUND THAT IN MANY CASES, BOTH EPA AND INDUSTRY, REGULARLY EXAGGERATED THE LIKELY CAPITAL COSTS. THE STUDY REPORTED THAT:

- (1) IN THE CASE OF WATER EFFLUENT GUIDELINES FOR PETROLEUM REFINERIES BOTH EPA AND THE

INDUSTRY ESTIMATED CAPITAL COSTS OF \$1.4 BILLION, 137 PERCENT HIGHER THAN THE ACTUAL COST OF \$590 MILLION.

- (2) FOR IRON AND STEEL INDUSTRY WATER POLLUTION STANDARDS, EPA FORECAST CAPITAL COSTS OF \$830 MILLION, WHEREAS THE INDUSTRY ESTIMATED \$1.6 BILLION. ACTUAL COSTS WERE \$510 MILLION.
- (3) IN CONTRAST TO OVERESTIMATION, EPA ESTIMATED THE CAPITAL COST OF COMPLIANCE WITH AIR POLLUTION STANDARDS IN THE ELECTRIC UTILITY INDUSTRY TO BE \$71 A KILOWATT, THE INDUSTRY SUGGESTED IT WOULD COST \$87 A KILOWATT, BUT THE ACTUAL COSTS TURNED OUT TO BE \$96 A KILOWATT.

BENEFITS

WHAT ABOUT ATTEMPTS TO MEASURE BENEFITS?

--A RECENT REPORT PREPARED BY AN ECONOMIST AT BOWDOIN COLLEGE FOR THE COUNCIL ON ENVIRONMENTAL QUALITY ESTIMATED SIGNIFICANT BENEFITS FROM ENVIRONMENTAL REGULATION:

- (1) IN 1978, AIR POLLUTION REGULATIONS WERE ESTIMATED TO HAVE SAVED 14,000 LIVES AND PRODUCED ABOUT \$21.4 BILLION IN OTHER BENEFITS, SUCH AS IMPROVEMENTS TO HUMAN HEALTH, AND REDUCED DAMAGE TO VEGETATION AND A WIDE VARIETY OF MATERIALS.
- (2) WATER POLLUTION CONTROLS BY 1985 ARE ESTIMATED TO RESULT IN ANNUAL BENEFITS OF ABOUT \$12.3

BILLION, IN TERMS OF INCREASED RECREATIONAL AND AESTHETIC VALUES, HIGHER FISH YIELDS, AND REDUCTION OF CERTAIN WATER BORNE DISEASES AS RESULT OF THE CONTROL OF CONVENTIONAL POLLUTANTS, SUCH AS PHOSPHORUS AND FECAL BACTERIA.

EPA ALSO CLAIMS THAT ITS PROGRAMS CREATE NEW INDUSTRIES. FOR EXAMPLE, UNDER THE CONSTRUCTION GRANTS PROGRAM IT EXPECTS THAT FOR EACH \$1 BILLION IN FEDERAL EXPENDITURES, 14,000 CONSTRUCTION JOBS AND ANOTHER 18,000 JOBS TO SUPPORT THESE CONSTRUCTION JOBS WILL MATERIALIZE.

ALTHOUGH THE EFFORTS TO COMPUTE COSTS AND BENEFITS MAY BE ENTIRELY SINCERE, THE FIGURES ARE NECESSARILY VERY "SOFT" AND OFTEN NOT MUCH MORE THAN "GUESSTIMATES." EPA SAYS THAT OVERALL, LESS THAN ONE HALF OF ONE PERCENT OF THE YEARLY INCREASE IN THE COST OF LIVING IS ATTRIBUTABLE TO ENVIRONMENTAL REGULATION. THE IMPACT OF COMPLIANCE WITH ENVIRONMENTAL LAWS ON SOME SEGMENTS OF OUR SOCIETY IS MUCH GREATER. IN MAY 1980, GAO REPORTED THAT THE COST TO SOME SMALL COMMUNITIES--THOSE UNDER 10,000 POPULATION--EXACTS A MUCH HIGHER ECONOMIC AND SOCIAL PRICE BECAUSE THE COSTS MUST BE SHARED BY FEWER TAXPAYERS, SOMETIMES PLACING SEVERE BURDENS ON LOW-INCOME RESIDENTS. WE IDENTIFIED ACTUAL CASES WHERE:

--RESIDENTS SOLD THEIR HOMES, MOVED TO LOW-INCOME OR PUBLIC HOUSING, OR REGISTERED FOR WELFARE BECAUSE

THEY COULD NOT AFFORD THE HIGH SEWER RATES ASSESSED TO SUPPORT WASTEWATER TREATMENT PROJECTS,

--SOME RESIDENTS HAD NOT PAID THEIR SEWER BILLS BECAUSE THEY SAID THEY NEEDED THE MONEY FOR FOOD AND LIVING EXPENSES, AND

--OTHER RESIDENTS DELAYED RECOMMENDED MEDICAL TREATMENT SO THEY COULD PAY THEIR SEWER BILL.

ENVIRONMENTAL REGULATION HAS CREATED NEW TYPES OF JOBS AND WHOLE NEW INDUSTRIES, BUT ECONOMISTS DIFFER AS TO WHETHER THE RESULTING EXPENDITURES ARE BASICALLY PRODUCTIVE AND WHETHER THEY ADD MUCH OF LASTING VALUE TO SOCIETY. SOME ARGUE THAT FOR EVERY DOLLAR INDUSTRY SPENDS ON ENVIRONMENTAL REGULATION, ONE DOLLAR IS TAKEN AWAY FROM CAPITAL NEEDED FOR PLANT CAPITAL IMPROVEMENTS, MODERNIZATION, AND EXPANSION, WHICH ALSO CREATES JOBS AND PROVIDE MORE LASTING BENEFITS.

SIMPLIFYING AND REDUCING THE
COST OF ENVIRONMENTAL REGULATION

GIVEN THE DIFFICULTIES, PROBLEMS, AND CONTROVERSIES, IN BALANCE WITH THE GENERALLY ACCEPTED VIEW THAT THERE IS A NEED FOR ENVIRONMENTAL REGULATION, WHAT CAN BE DONE TO SIMPLIFY AND REDUCE THE COST OF ENVIRONMENTAL REGULATION? THE ANSWER IS: QUITE A BIT.

I HAVE ALREADY DISCUSSED THE NEED FOR GREATER FLEXIBILITY IN ENVIRONMENTAL REGULATION, CONSIDERING WHETHER BENEFITS ARE COMMENSURATE WITH THE COSTS, AS WELL AS IMPROVING THE SCIENTIFIC BASIS FOR ENVIRONMENTAL DECISIONS. LET ME TURN TO TWO

OTHER AREAS WHICH CAN LIGHTEN THE BURDEN OF REGULATION--

(1) KNOWING THE ACTUAL STATE OF THE ENVIRONMENT BEFORE IMPOSING REGULATORY MEASURES AND (2) DEVELOPING INNOVATIVE APPROACHES.

ACTUAL STATE OF THE ENVIRONMENT

ACCURATE, RELIABLE INFORMATION ON THE ACTUAL STATE OF THE ENVIRONMENT IS NEEDED BEFORE A DECISION IS MADE AS TO THE APPROPRIATE CONTROL STRATEGIES AND ACTIVITIES TO BE EMPLOYED. UNFORTUNATELY, MAJOR DECISIONS AFFECTING HEALTH AND THE ECONOMY HAVE BEEN BASED AT TIMES ON DATA OBTAINED FROM INADEQUATE ENVIRONMENTAL MONITORING SYSTEMS.

IN A MAY 1979 REPORT, WE RAISED SERIOUS QUESTIONS ABOUT THE RELIABILITY AND REPRESENTATIVENESS OF AIR QUALITY DATA. WE REPORTED THAT AIR QUALITY MONITORING NETWORKS WERE SUSPECT, BECAUSE DATA WERE OBTAINED FROM INCORRECTLY SITED MONITORS AND UNCERTIFIED EQUIPMENT. THE USE OF AIR QUALITY DATA PRODUCED BY SUCH NETWORKS AS A BASIS FOR POLICY DECISIONS AND REGULATORY ACTIONS IS HIGHLY QUESTIONABLE AND CAN RESULT IN UNNECESSARY, COSTLY REGULATION. FOR EXAMPLE:

--BUSINESSMEN IN BUTLER COUNTY, OHIO, QUESTIONED THE ACCURACY OF EPA'S MONITORING NETWORK AND AWARDED A CONTRACT TO A RESEARCH FIRM TO DEVELOP A PRIVATE AIR MONITORING SYSTEM BECAUSE THEY BELIEVED THAT EPA WOULD DESIGNATE THE AREA AS NOT IN COMPLIANCE WITH AMBIENT AIR QUALITY STANDARDS. ALTHOUGH THE AREA HAS NOT BEEN SO DESIGNATED, THE BUSINESSMEN

ARE CONTINUING THEIR PRIVATE MONITORING EFFORT.
SHOULD THE AREA BE DESIGNATED AS NONATTAINMENT,
SIGNIFICANT ECONOMIC IMPACTS, PARTICULARLY
RESTRICTIONS ON INDUSTRIAL EXPANSION, COULD RESULT.
--STATE LEGISLATURES ARE BEING REQUIRED TO ADOPT
EXPENSIVE AUTOMOBILE EMISSION CONTROL INSPECTION AND
MAINTENANCE PROGRAMS FOR AREAS NOT IN COMPLIANCE WITH
AMBIENT AIR STANDARDS, YET MUCH OF THE DATA USED IN
MAKING NONATTAINMENT DETERMINATIONS IS OF UNKNOWN
QUALITY AND MAY BE UNRELIABLE.

SIMILARLY, WATER QUALITY DATA IS OFTEN INADEQUATE AND
UNRELIABLE. IN 1978 IN A GAO REPORT ON AREAWIDE, OR "208" WATER
QUALITY MANAGEMENT PLANNING, WE NOTED THAT WATER QUALITY
DATA WAS NEEDED TO SUPPORT EFFECTIVE PLANNING AND TO PURSUE
THE MOST COST EFFECTIVE CONTROL PROGRAMS. DATA WAS LACKING
WHICH WOULD DESCRIBE HOW POLLUTION OCCURS AND TO WHAT DEGREE
WATER QUALITY WOULD BE IMPROVED AFTER ONE OR MORE CAUSES
OF POLLUTION WERE ELIMINATED. AS WE WILL POINT OUT IN A
SOON TO BE RELEASED REPORT, EXISTING FIXED STATION WATER
QUALITY MONITORING NETWORKS DO NOT PRODUCE THE ACCURATE,
RELIABLE DATA NEEDED TO SUPPORT COSTLY POLLUTION CONTROL
DECISIONS AND TO EVALUATE THE EFFECTIVENESS OF SUCH
CONTROL STRATEGIES.

INNOVATIVE APPROACHES

AMERICANS HAVE ALWAYS PRIDED THEMSELVES ON THEIR
INNOVATIVE CAPABILITY. INDEED INNOVATION AND TECHNOLOGICAL

ADVANCEMENT HAVE ALWAYS BEEN A HALLMARK OF AMERICAN INDUSTRY. GAO'S INVOLVEMENT IN ENVIRONMENTAL PROTECTION ACTIVITIES, HOWEVER, HAS SHOWN ONLY MINIMUM APPLICATION OF THIS INNOVATIVE CAPABILITY. FOR EXAMPLE, TWO YEARS AGO WE REPORTED, THAT A VERY OLD TREATMENT TECHNOLOGY--THE SEPTIC SYSTEM, WHEN PROPERLY DESIGNED, INSTALLED, AND MAINTAINED,--IS A VIABLE ALTERNATIVE TO COSTLY CENTRAL TREATMENT PROCESSES. HOWEVER, FEDERAL AGENCIES DO NOT ENCOURAGE THE BUILDING OF SEPTIC SYSTEMS TO PERMANENTLY SOLVE WASTEWATER TREATMENT PROBLEMS, THEY DON'T PROVIDE FINANCIAL INCENTIVES, AND STATES AND COMMUNITIES HAVE NOT DEVELOPED MORE EFFECTIVE TECHNIQUES TO MANAGE AND CONTROL SEPTIC SYSTEMS ACTIVITIES.

OUR WORK ON COMBINED SEWER OVERFLOW PROBLEMS HAS ALSO DEMONSTRATED THE NEED FOR INNOVATION. TO ELIMINATE OVERFLOWS AND REDUCE FLOODING, THE CHICAGO METROPOLITAN SANITARY DISTRICT BEGAN CONSTRUCTION OF A TWO-PHASE, DEEP TUNNEL PROJECT, WHICH PROBABLY WOULD HAVE COST MORE THAN \$11 BILLION. YET DESPITE THIS MASSIVE EXPENDITURE, EPA AND THE STATE AGREED THAT THE PROJECT WOULD NOT BRING THE AREA WATERWAYS TO THE 1983 FISHABLE/SWIMMABLE GOAL. THE USE OF INNOVATIVE, BEST MANAGEMENT PRACTICES, SUCH AS STREET AND ROOFTOP IMPOUNDMENTS, POROUS PAVEMENT, CHECK VALVES AND STANDPIPES, STREET SWEEPING, AND IN-LINE SEWER STORAGE, COULD CONTRIBUTE SIGNIFICANTLY TO REDUCING OVERFLOW AND FLOODING PROBLEMS AT A MUCH LOWER COST. WE ARE PLEASED TO NOTE THAT THE CITY OF TOLEDO, OHIO, RECENTLY DETERMINED THAT THE USE OF BEST MANAGEMENT

PRACTICES, SUCH AS SEWER FLOW REGULATORS, IS THE MOST PRACTICAL, COST EFFECTIVE WAY TO DEAL WITH ITS COMBINED SEWER PROBLEMS.

INNOVATION IN ENVIRONMENTAL REGULATION WILL BECOME MORE AND MORE IMPORTANT AS DEMANDS FOR SCARCE RESOURCES MULTIPLY. ONE RECENT INNOVATION PROPOSED BY EPA--THE BUBBLE CONCEPT--ALTHOUGH NOT WITHOUT ITS DRAWBACKS, MAY HOLD PROMISE FOR SIGNIFICANT SAVINGS. FOR EXAMPLE, UNION CARBIDE MAY REALIZE SAVINGS OF MORE THAN \$5 MILLION THROUGH USE OF THE CONCEPT AT A WEST VIRGINIA METAL FABRICATION PLANT. THE BANKING AND BROKERAGE CONCEPTS, WHEREBY COMPANIES REDUCING EMISSIONS BELOW MAXIMUM REQUIREMENTS WOULD BE PERMITTED TO SELL POLLUTION RIGHTS TO OTHER FIRMS, ALSO HOLDS PROMISE FOR THE FUTURE.

ONE AREA WHERE INNOVATION WILL TRUELY BE NEEDED IS IN THE HANDLING, TREATMENT, STORAGE, AND DISPOSAL OF HAZARDOUS WASTES. WE CAN'T AFFORD THE LOVE CANAL, NEW YORK, AND HAMILTON, OHIO, SITUATIONS, WITH THEIR HEALTH HAZARDS AND CONTINUED POLLUTION OF OUR LAND AND WATERS. INNOVATION THROUGH NEW AND IMPROVED TECHNOLOGIES FOR RECYCLING AND REUSE, LAND DISPOSAL, UNDERGROUND DEEP WELL INJECTION, AND HIGH TEMPERATURE BURNING IS A MUST IF WE ARE TO HAVE THE WHEREWITHAL TO DEAL WITH HAZARDOUS WASTES.

CONCLUSIONS

IN CLOSING, I WANT TO EMPHASIZE THAT WE SHOULD HARBOR NO ILLUSIONS THAT ENVIRONMENTAL REGULATION IS GOING TO DISAPPEAR

SHORTLY, DESPITE THE GROWING SENTIMENT TO SACRIFICE A CLEANER ENVIRONMENT IN A PERIOD OF INFLATION, ENERGY PROBLEMS, AND RECESSION. IN VARIOUS PUBLIC OPINION POLLS, THE AMERICAN PEOPLE HAVE EXPRESSED THEIR DESIRE FOR CLEAN AIR, CLEAN WATER, AND UNPOLLUTED LAND, AND THEIR WILLINGNESS TO PAY A REASONABLE PRICE FOR SUCH VALUES. IN ALL HONESTY, I DOUBT THAT ANYONE WOULD SAY THAT ENVIRONMENTAL REGULATION IS NOT NEEDED.

THE CHALLENGE, HOWEVER, IS TO ENSURE THAT SUCH REGULATION IS NOT OVERLY COMPLEX AND BURDENSOME AND THAT COSTS BEAR A RELATIONSHIP TO THE BENEFITS DERIVED. THEREFORE, WE NEED FLEXIBILITY, WE NEED RELIABLE, ACCURATE DATA AND SCIENTIFIC BASES UPON WHICH TO MAKE DECISIONS, AND WE NEED INNOVATION.

THE CHALLENGE IS THERE FOR ALL--INDUSTRIALISTS AND ENVIRONMENTALISTS, FEDERAL, STATE, AND LOCAL OFFICIALS, AND LARGE COMMUNITIES AND SMALL TOWNS. WE IN THE GENERAL ACCOUNTING OFFICE BELIEVE IT CAN BE DONE MORE EFFICIENTLY, EFFECTIVELY, AND ECONOMICALLY IF WE CAN FOSTER A BETTER UNDERSTANDING AND RESPECT FOR THE DIFFERENT VIEWPOINTS THESE GROUPS REPRESENT AND FIND A COMMON GROUND ON WHICH TO ACT.